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THE UNIVERSITY OF ALBERTA

DEVELOPMENT OF, CHANGES IN, AND FACTORS ASSOCIATED WITH NEW PARENTS' SENSE OF COMPETENCE

by

DONNA J. GOJMERAC

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF NURSING

FACULTY OF NURSING

EDMONTON, ALBERTA

FALL, 1988

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ISBN 0-315-45588-8

11 July 1988

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Dr. Jay Belsky
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Department of Individual and Family Studies
Pennsylvania State University
University Park, Pennsylvania 16802

Dear Dr. Belsky:

I am a graduate student, a candidate for the degree of master in nursing, studying at the University of Alberta in Edmonton, Alberta, Canada. I am also a former public health nurse, with a long standing interest in the enhancement of parent-child interaction, and of early family development.

My specific research interest, in terms of my thesis, is the development of feelings of self-confidence in the parenting role, in new parents. When I first began reviewing the literature in this area, it appeared that self-confidence in new parents was neither clearly defined, nor was its development over time understood. In light of the fact that reference to its "enhancement" appears subtly in numerous early intervention articles, it seemed a subject worth investigating.

Several of your published articles were invaluable to me in the earlier stages of my thinking and planning. In particular, I selected "The determinants of parenting: A process model" (Child Development, 55, 83-96) as the model I would use for discussion of my study's findings. I am writing to inform you of this, and to ask your permission to reproduce within my written thesis the diagram on page 84 of your published article. Although my study is, by necessity, limited in both scope and depth, most of the variables I have selected for study lend themselves to classification according to the determinants identified in your model. In fact, it was your model which, in the earlier stages of my thinking, provided the context within which I was able to successfully and meaningfully develop and gain approval for my thesis proposal. Because of its clarity, I would greatly appreciate being able to include your diagram within my final thesis.

Thank you for consideration of this request. Please feel free to call me collect at the above telephone number, if you wish.

Donna Gojmerac
Donna Gojmerac

I hereby grant you permission to reprint the figure cited above, you also need the permission of Child Development, I believe.
Dr. Belsky 7/18/88

please see next page →
P.1 Glad I was of some help.

30 July 1988
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Dorothy H. Eichorn
Executive Officer
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5720 South Woodlawn Avenue
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Dear Ms. Eichorn:

Re: Belsky, J. The determinants of parenting: A process model. Child Development, 1984, 55, 83-96.

I am a graduate student, a candidate for the degree of Master in Nursing, studying at the University of Alberta in Edmonton, Alberta, Canada. I am writing to request permission to reproduce within my written thesis the diagram found on page 84 of the above cited article, entitled "Fig.1.- A process model of the determinants of parenting". I am using Dr. Belsky's model as the framework for my thesis study, and would appreciate including this diagram in the final draft of my thesis.

The title of my thesis is "Development of, changes in, and factors associated with new parents' sense of competence". Dr. Belsky is aware of my work and has given me permission to reference his article and to use his diagram; in so doing, he also directed me to contact you for the same.

Thank you. An early response would be appreciated.

Sincerely

Donna Gojmerac

Donna Gojmerac
Master in Nursing candidate
University of Alberta

Permission granted, as stated above, 3 August 1988.

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YEAR THIS DEGREE GRANTED: 1988

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FACULTY OF GRADUATE STUDIES AND RESEARCH

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Peggy Anne Field
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Date: September 22, 1988

ABSTRACT

This short-term longitudinal study examined influences upon and changes in parental sense of competence during the transition to parenthood in 103 primiparous couples. Independent variables included perceived characteristics of the babies and social network support. The Parental Sense of Competence scale (PSOC)(Gibaud-Wallston, 1977) was used to measure parents' perceptions of their competence in the parenting role across 4 intervals: 3rd trimester of pregnancy, early postpartum, 1 month postpartum, 3 months postpartum. Findings were discussed using the Determinants of Parenting process model (Belsky, 1984). Multiple linear regression was used in analysis of the findings.

It was shown that parents' sense of competence levels gradually rose over time. Difficult infant characteristics and low social support were associated with low parental sense of competence. Reported parental anxiety, previous sense of competence levels, and perceived baby characteristics were the best predictors of sense of competence in mothers; reported parental anxiety, previous sense of competence levels, and social network support were the best predictors of fathers' sense of competence.

Reliability and validity of the PSOC was questioned.

ACKNOWLEDGEMENTS

My sincerest thanks is extended to the 103 volunteer couples who participated in this study. It would not have been possible without their continued interest and commitment.

Dr. Peggy Anne Field, my supervisor, allowed me the freedom to pursue this study in as independent a manner as possible, yet was always available when guidance was required. Her patience and expertise were invaluable.

Dr. Leslie Hayduk opened my eyes to the possibilities of regression analysis and theoretical thinking. I am grateful for that opportunity.

Dr. Ruth Elliott encouraged and philosophised with me about the mind-expanding experience of conducting research. Thank you.

I would like to thank Dr. John Marko, Dr. Chris Hoskins, the Edmonton Childbirth Education Association, the Stony Plain-Lac Ste. Anne Health Unit, the Leduc-Strathcona Health Unit, and the Sturgeon Health Unit for sponsoring my research. Their positive response to my request was the best encouragement I could have received at that stage in my study.

Lastly, Bill Tyzuk provided unfailing financial and emotional support, and technical expertise, which made the completion of this thesis a reality.

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CHAPTER I

THE RESEARCH PROBLEM AND ITS SIGNIFICANCE

Introduction

The enhancement of early parent-infant interaction has been a subject of active research and theory development during the past several decades. Through these efforts, numerous factors which may influence early parent-infant interaction and early parenting have been identified. One such factor is "parental sense of competence", that is, a parent's sense of personal competency or adequacy in the parenting role vis-a-vis his or her own infant (Gibaud-Wallston, 1977). Although reference to parental sense of competence, or to somewhat similar constructs, such as confidence, frequently occurs in the early parenting literature, parental sense of competence has been infrequently studied. A clear understanding of how it develops, how it changes over time, and what factors most influence it have not been established.

Early intervention programs are designed with the intent of enhancing early parent-infant interaction. Implied in some early intervention research is the belief that parents' sense of competence may benefit from program exposure (Dickie & Gerber, 1980; Myers, 1982; O'Connor, Vietze, Sherrod, Sandler, & Altemeier, 1980). Such suggestions of enhancement, however likely or reasonable, remain at this time largely speculative, due to a lack of

published research in which sense of competence has been directly studied. Of the small number of studies in which parental sense of competence is identified, the study focus typically has not been the understanding of how parental sense of competence develops or changes over time. Rather, the study focus has been whether or not differences, attributable to effects of the intervention program, are observed between treatment and control groups. However, without this understanding, only cautious interpretation of experimental study findings can occur, as a normative basis for comparison is not established.

Belsky (1982) makes the point that the most effective and efficient parenting interventions are those which are based upon a firm understanding of underlying processes. Nurses in a variety of settings are among those frequently involved in the development of and administration of early intervention programs. If the intent of these programs is the enhancement of early parent-infant interaction, then a clearer understanding of the underlying processes which support or result in enhancement is needed. Parental sense of competence is one such process. With this understanding, nurses and others who design and implement early intervention programs are in a better position to do so effectively. Knowledge of parental sense of competence, its pattern of change over time, and factors which may influence it, may lead to insight into its role in parent-infant

interaction, and how, if at all, enhancement of parent-infant interaction may best occur.

Purposes

The primary purpose of this study was to better understand the development of parental sense of competence in primiparous parents during transition to parenthood. This was accomplished by the documentation of patterns of change over time, differences in these patterns between mothers and fathers, and effects of other factors. A secondary purpose of this study was to compare these findings with those of Gibaud-Wallston (1977), originator of two of the instruments used in this study, and one of the first persons to identify and investigate parental sense of competence.

Research Questions and Hypotheses

Research Questions

1. How do first-time parents describe their sense of competence, anticipate their infant's characteristics, and describe satisfaction with their social network support, in the anticipatory phase of parenthood (that is, prior to the baby's birth)?
2. How do first-time parents' descriptions of their sense of competence change over time, following the birth of their baby?

3. What differences are observed between mothers' and fathers' sense of competency scores at each of the measurement intervals, and in the overall pattern of change across measurement intervals?
4. What relationship do perceived infant characteristics have with parental sense of competence?
5. What relationship does satisfaction with social network support have with parental sense of competence?

Research Hypotheses

1. Differences will be observed between parents' descriptions of anticipated infant characteristics, and later descriptions of actual perceived infant characteristics.
2. The lowest parental sense of competence scores will occur at the third measurement interval (one month post-birth).
3. Different parental sense of competency scores will be observed between mothers and fathers at some of the measurement intervals. Similarly, different patterns of change in parental sense of competence will occur between mothers and fathers.
4. Parents who perceive their infants as difficult will have lower parental sense of competence scores.
5. Parents who experience low social network support will have lower parental sense of competence scores.

Theoretical Framework

The Determinants of Parenting model, developed and described by Belsky (1984), was used in this study (see Figure 1). Belsky began discussion of the model by stating that previous study of parenting had largely involved understanding the processes whereby parents' childrearing strategies and behaviors shaped and influenced their children's development. Belsky contrasted this with evidence that much less effort had been directed to studying why parents parent the way that they do, and proposed the model as a framework to assist these attempts.

The model was derived from work concerning the etiology of child maltreatment, but was also proposed for research of parental behavior within the normal range. Three general sources of influence upon parental behavior were identified:

1. Parents' ontogenic origins and personal psychological resources.
2. The child's characteristics of individuality.
3. Contextual sources of stress and support.

Parenting is directly as well as indirectly influenced by forces originating from these sources.

Additionally, three general conclusions regarding the determinants of parenting were outlined:

1. Parenting is multiply determined.
2. With respect to their influence on parenting, characteristics of the parent, of the child, and of

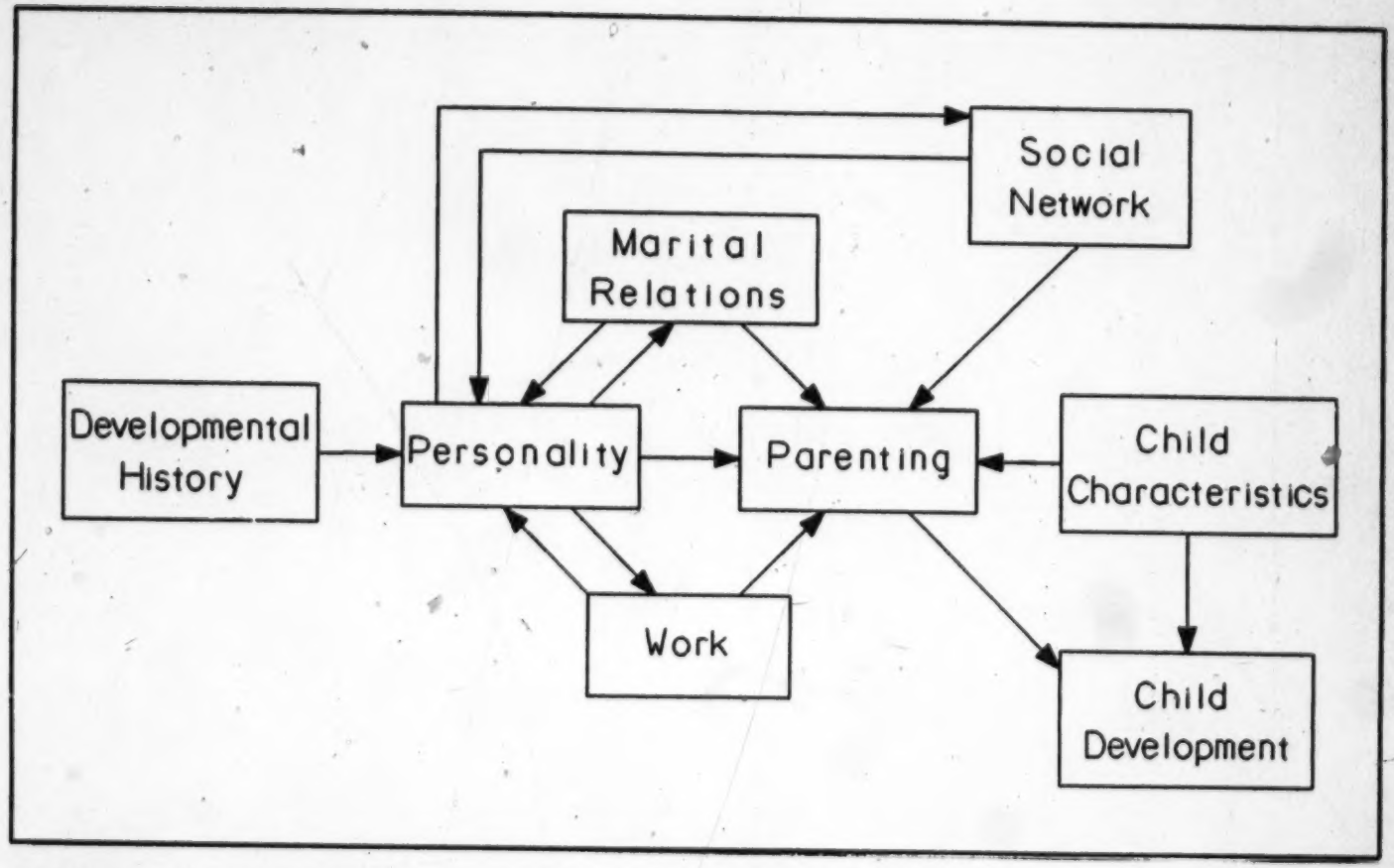

Figure 1. A process model of the determinants of parenting.

From "The determinants of parenting: A process model" by J. Belsky, 1984, Child Development, 55, p.84. Copyright 1984 by the Society for Research in Child Development, Inc. Reprinted by permission.

the social context are not equally influential in supporting or undermining growth-promoting parenting.

3. Developmental history and personality shape parenting indirectly, by first influencing the broader context within which parent-child relations exist.

This model was selected for use in the study for two main reasons. Firstly, as will become apparent, the major variables outlined for study were easily categorized according to this scheme. Secondly, as a process model, it addressed multiple influence of components, direct and indirect effects, and multidirectionality of influences. It therefore was an appropriate choice, given the proposed data analysis strategy, outlined in Chapter III.

Overview of the Thesis

Chapter I provides an introduction to and justification for the study. In Chapter II, literature which contributed to the development of the study is outlined, and the research questions and resultant research hypotheses which were derived from this literature are stated. In Chapter III, methodological issues are discussed, with respect to the study's design, instruments used, subjects, data collection methods, ethical considerations, and data analysis. Chapter IV reports the study's findings,

including characteristics of the sample, as well as discussion of each research hypothesis. In Chapter V, scale analysis issues are discussed. Chapter VI contains the conclusions and summary of the study.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

The subject areas of parent-infant interaction, early intervention, and transition to parenthood yielded a small number of studies in which mention of or study of parental sense of competence occurred. However, differing use of key terms within these areas of literature occurred. For example, the term "competence", used alone, had at least two different meanings. In much early intervention literature, "competence" referred to the neurological intactness and behavioral functioning in neonates (Brazelton, 1979; Brazelton, 1984). "Competence", used where parenthood was viewed as one stage of the human life cycle, also referred to the enhancement of adult development through the encountering and mastery of critical life events (Danish & d'Augelli, 1980; Danish, Smyer, & Nowak, 1980). "Social competence" was used to refer to motivation of the infant to effectively interact with his or her environment, where parents were viewed as a part of this environment (Goldberg, 1977; Dickie & Gerber, 1980). Other occasionally successful search terms frequently were located by chance and guesswork. This list included: confidence, self-confidence, competence motivation, self-perception, anxiety, feelings of efficacy, degree of comfort, sense of satisfaction, and sense of success.

Inconsistent terminology reflected the lack of recognition and conceptualization concerning parental sense of competence. Given that subtle speculation about its influence upon parenting did occur, this was noteworthy (Dickie & Gerber, 1980; Myers, 1980; O'Connor, Vietze, Sherrod, Sandler, & Altemeier, 1980). That is, parental sense of competence was thought by some to be one underlying mechanism through which the goal of enhanced parent-infant interaction was effected. Yet, without a clear understanding of parental sense of competence, its role in the enhancement of parenting cannot be explained.

If parental sense of competence is viewed in part as an indicator of a parent's feelings of self-trust, degree of certainty, or ability to rely on his or her own decisions, then it is conspicuously absent in many discussions concerning infant-parent reciprocity, responsiveness, and enhancement (Anderson, 1981; Anderson & Sawin, 1983; Buckner, 1983; Gomes-Pedro, Bento de Almeida, Silveira da Costa, & Barbosa, 1984; Liptak, Keller, Feldman, & Chamberlin, 1983; Metzl, 1980; Riesch, 1979; Widmayer & Field, 1980; Widmayer & Field, 1981; Worobey & Belsky, 1982). For example, increases in level of knowledge about newborns alone do not lead to enhanced parent-infant interaction. There must also be present a self-initiated, even "risk taking" component, which motivates parents to incorporate this knowledge into their own style of

parenting. It is for this reason that further understanding of parental sense of competence is important.

Ten studies were initially found, in which parental sense of competence seemed to appear as a main focus. Of these ten, six were experimental in design, involving the use of an intervention, three were primarily descriptive, two of these involving the study of a parenting model, and one concerned the development of an instrument to measure parent's beliefs about themselves. Subsequently, three longitudinal studies were located, in which parental sense of competence seemed to be included. Relevant aspects of these studies are summarized and presented.

Studies Reviewed

Initial Studies

Seashore, Leifer, Barnett, and Leiderman (1973) developed a set of six paired-comparison questionnaires, in which maternal self-confidence was determined by the number of times a mother chose herself in preference to other caretaker choices of father, grandmother, experienced mother, pediatric nurse, and doctor. Seven rated tasks of showing affection, holding, calming, diapering, understanding, bathing, and feeding were classified as either social (interactive) or instrumental (caretaking). Sixty-six mothers and infants were divided into three groups: 20 mothers of prematures who had only visual

contact with their infants through a window (separated), 22 mothers of prematures who were permitted to enter the nursery and care directly for their infants (contact), and 24 mothers of full-term bottle-fed infants. The questionnaires were administered early post delivery, seven to ten days pre-discharge (for prematures), one day pre-discharge, and one month post-discharge. A two-way repeated measures analysis of variance design was used.

At the initial testing, primiparous mothers had lower confidence scores but not significantly so. At the second testing, separated primiparous mothers were significantly less confident than others, even less confident than they had been at the first testing. At the third testing, separated primiparous mothers remained significantly less confident. At the final testing, the confidence level for separated primiparous mothers had risen to a level comparable with other mothers for social tasks, but remained lower, although not significantly, for instrumental tasks.

This study was one of four published by a single group of researchers, who carried out three other sub-studies with the same mothers over a period of two years. The earliest developed instrument, these questionnaires continued to be used by other researchers named in this review, in the absence of other instrument choices. Although one weakness of the study was that the instrument provided a ranked comparison, rather than a self-perception, of maternal self-

confidence, the repeated measures design provided information about the pattern of change over time in maternal self-confidence.

Gibaud-Wallston (1977) developed, tested, and used the Parenting Sense of Competence Scale (PSOC) to measure parents' own perceptions of themselves in the parenting role. The PSOC was derived from self-esteem and crisis theory, and was modeled after Wagner and Morse's Sense of Job Competency Scale (1975). Fifty-six primiparous couples were studied using a two-way analysis of variance design, in which parent's perceptions of their infants (easy or difficult), social support (high or low), and new parent discussion group participation (membership or non-membership) were the dependent variables. Items comprising the PSOC were also divided into two subscales, namely, skill/knowledge and valuing/comfort.

The amount of perceived social support was found to be a major determinant of the valuing/comfort subscale for fathers ($F = 4.064$ (1,48), $p < .005$). Mothers of difficult babies reported significantly lower valuing/comfort scores ($F = 10.078$ (1,48), $p < .005$). This main effect was qualified by perceived social support, and was found to be especially strong for discussion group members.

The couples making up the sample consisted of white, middle class, educated parents in their late twenties, and were drawn from couples completing prepared childbirth

classes. Scales were administered to parents on a single occasion at their infants' mean age of 11 weeks. Scale analysis of the PSOC and its subscales provided initial evidence for internal consistency, reliability, and convergent and divergent validity, yet one weakness of the subscales was that their designation occurred a priori, apparently based on face value.

Poley (1978) investigated the effects of a teaching and modelling intervention on the development of reciprocity between 20 black low-income primiparous mothers and their infants. Included with pretest-posttest measures of reciprocity and perceived infant behavior, was a rating of maternal self-confidence, as measured by Seashore, Leifer, Barnett, and Leiderman's (1973) six paired-comparison questionnaires. Repeated measures analysis of variance showed that interaction of the treatment and testing effects approached significance with the self-confidence scores ($p < .07$), but the intervention did not contribute to significant increases in the reciprocity, perceived infant behavior, or self-confidence scores.

Sullivan (1979) studied the effects of early contact and a postpartum training program, based on the Brazelton Neonatal Behavioral Assessment Scale (1973), on maternal attachment behaviors, self-confidence and competency at one month postpartum, and mutuality of mother-infant interactions at two months postpartum. Fifty-three mothers

were studied. It appeared in this study that "confidence" referred to subjective aspects and "competence" referred to behavioral aspects of the same construct, but this was unclear. According to the author, both confidence and competence ratings were assessed by summing scores assigned through a physician's examination of the baby, a medical examiner's interview with the mother, and a trained interviewer's interview with the mother, yet the focus of all three of these assessments was attachment.

A two-way analysis of variance design was used, in which immediacy of the mother's contact with her baby, and the postpartum training program, were varied. Forty-nine of the mothers were seen one month later, and 40 mothers two months later, at which times attachment behaviors were evaluated. At one month, postpartum training had a significant effect in increasing maternal attachment behaviors ($p = .049$), while no significant effect showed for early contact. Mothers who experienced both early contact and training scored highest in confidence and competence, but this was not significantly higher. At two months, training resulted in greater synchronicity in face-to-face behaviors of mothers and babies ($p = .028$).

However, maternal confidence and competence were rated by a medical examiner's perception of the mother during a physical examination of the baby, and inferred by subjective perceptions of the mother while in the clinic setting. To

illustrate, the physician was asked to describe the mother's "attitude about being a mother" from the possible choices of "calm, somewhat anxious, anxious"; similarly, to describe the mother's manner with her baby as "competent, somewhat incompetent or uncomfortable, rigid mechanical uncomfortable unconcerned neglectful". No comments were included concerning the number of physicians involved, or if reliability between them as raters was established.

Myers (1980) assigned 42 families of first babies to one of three groups: father-treatment, mother-treatment, and control. The target parent was taught a Brazelton-based assessment of his or her infant during the routine hospital stay, and questionnaires which concerned knowledge of infant behavior, confidence in parenting ability, affection for the infant, and behavior with the infant, were completed by both parents at least six hours after the assessment was taught, and one month later. Three items, which directly addressed issues of confidence in parenting, were rated according to a five point scale. These were: 1. How confident are you of your ability to take care of your baby? 2. How difficult do you think it will be for you to know what your baby wants? 3. How confident are you that you will know what to do when your baby cries? In addition, parents were asked whether being in the study made them feel "more sure" or "less sure" of themselves as parents, or "no change".

The in-hospital confidence items showed no treatment effects for mothers or fathers. At one month, one confidence item showed an effect for treatment mothers only, with 57% of treatment mothers also stating that being in the study made them feel "more sure" of themselves as parents (Chi Square (2)= 12, $p < .003$). Treatment mothers and fathers evidenced more knowledge about their infants at one month, and treatment fathers were more involved in care and interaction at one month. Myers speculated that had the parents been younger or less mature than those comprising the sample, there could have been "more room for improvement", as most parents described themselves as already fairly confident on the first measure taken.

Dickie and Gerber (1980) used Gibaud-Wallston's PSOC to measure parental sense of competence. Parental sense of competence was conceptualized as a subjective component of overall social competence between parent and infant, using Goldberg's (1977) definition, which appears later in this review. Nineteen volunteer couples of 4-month-old to 12-month-old infants were matched and assigned to the experimental or control groups. The experimental group received 16 hours of training in the form of lecture, discussion, and demonstration concerning infant development, interaction, and problem solving. The control group received the training after the experimental group had completed theirs, so that no families were deprived of a

program in which they had expressed interest. Observation by trained observers, videotaping, and questionnaire administration was ongoing during the classes, as specific aspects of competence were examined.

A two-way analysis of variance design was used. As measured by observational data, training did affect parenting competence. However, scores from the PSOC showed that while training did not increase parents' sense of competence, it did increase judgements of the spouses' competence. Further, there was no support for a relationship between measured sense of competence and actual performance competence. Dickie and Gerber speculated that training could have sensitized parents to areas of weakness as well as providing information, and therefore, changes in overall sense of competence were not picked up by the scale.

Ballenski and Cook (1982) conducted a descriptive study in which mothers' "perceptions of competence", defined as the degree of comfort mothers felt with their ability to manage specific caretaking and related tasks, were surveyed. A sample of 278 mothers of children under 18 years old were asked to complete a questionnaire, which rated selected parenting tasks specific to the age group of the child, using a six-point scale ranging from "always comfortable" to "never comfortable". The sample was one of convenience, obtained from a cooperating pediatrician's practice.

Thirty of these mothers had infants under one year old. Their questionnaires contained eight items concerning actual caretaking tasks, perceptions and adjustments to the parenting role, and other related activities. All mean ratings for mothers of infants fell into the positive side of the scale spectrum. "Caring for physical needs" received the highest mean rating. Twenty-seven percent felt less than "often comfortable" handling financial pressures, and 13% felt "hardly ever comfortable" concerning weaning. Mothers of older children, particularly adolescents, received more discussion in the study, with only brief comments directed towards mothers of infants.

Roberts (1983) examined the effects of infant behavior on the transition to parenthood. The primary interest was the relationship between infant behavior that required action on the part of the parents (obligatory behavior), and the parents' perceptions of their transition to parenthood and of their infant in terms of being "average". Other intervening variables examined included normative change, parental perceptions of role competence, and parental self-esteem.

Parental perceptions of role competence were measured using an index of six items describing the parents' perceptions of their ability to perform common parenting tasks, and their ability to comfort the infant when he or she was crying. The index was developed specifically for

the study, and was approved for content validity by the researcher's doctoral committee. Alpha reliability coefficients of .860 (mothers) and .775 (fathers) were computed. Sixty-four couples attending prenatal class programs volunteered for the study, completing the questionnaires in the last trimester of pregnancy and at four weeks postpartum.

For mothers, the amount of obligatory infant behavior was negatively correlated with parental perceptions of role competence ($r = -.27$, $p < .014$). A significant correlation was not found between perception of role competence and postnatal self-esteem. For fathers, a slightly stronger negative correlation occurred between the amount of obligatory infant behavior and parental perceptions of role competence ($r = -.38$, $p < .001$), and as for mothers, the relationship between parental perceptions of role competence and postnatal self-esteem was not significant. Other findings provided evidence that mothers and fathers experienced the transition to parenthood differently.

Lansdowne (1984) studied 23 middle-class fathers of first born, seven-month-old infants, investigating the relationship among components of parental competence, as described in a model published by Belsky, Robins, and Gamble (1984). Sensitivity to infant needs, behavioral involvement (in the form of caregiving experience), and psychological involvement with the infant, were taken as components of

parental competence. The fathers were observed at home for one two-hour period while the mother was absent.

Observational measures of paternal sensitivity, questionnaire measures of psychological involvement, and other potential covariables were examined in a commonality analysis to predict paternal caregiving experience, which was assessed by a questionnaire given three times to both parents. Psychological involvement and total caregiving experience were not reliably assessed. A reliable caregiving component was derived, but the variance in this component was not predicted by any of the sensitivity indices. The mother's view of herself as a caregiver, and the amount of time the infant spent in non-parental care, were related to the amount of time that the father spent alone, interacting with the infant, while the mother was nearby. Despite instrument limitations, the study provided descriptive information concerning paternal caregiving patterns.

Pridham and Chang (1985) viewed one aspect of competency as a sense of satisfaction or success, and proposed that mothers' sense of satisfaction and success as parents should be positively related to self-reported problem solving skills. They developed an instrument titled What Being the Parent of a New Baby is Like (WPL), and one variable examined, "Success in Care", included four items: satisfaction in being a parent, sense of being in tune with

baby, parents' knowledge of baby, and parents' meeting of self-expectations. A convenience sample of 49 primiparous and multiparous mothers received a questionnaire administered three times during the baby's first three months. This data was the basis for preliminary examination of item characteristics, reliability (internal consistency), and validity. The WPL and three other instruments were simultaneously administered, in order to assess the construct validity of the WPL.

Using principle_components factor analysis with iteration and varimax orthogonal rotation, the variable, "Success in Care", formed the first factor extracted. "Centrality of the Infant", the extent to which the baby was on the parent's mind, formed the second factor. Together, these two accounted for 60.1% of the total variance observed. Alpha coefficients for "Success in Care" varied from .70 to .85 across the three questionnaire administrations. A moderate correlation between "Success in Care" and problem solving abilities was demonstrated (r = .44). The findings generally showed that as mothers gained experience with their babies, mean scores for all measures increased. As mothers who participated in the study were assessed as low risk, capable parents, the authors' stated intent was to continue testing the instrument on larger, more heterogenous samples.

Longitudinal Studies

Goldberg (1977) proposed a model of parent-infant interaction based upon social competency in infancy. Based on the assumptions that infants are preadapted to be selectively attentive to stimulation provided by adults, and that infants possess a repertoire of behaviors which capture adult attention, Goldberg proposed that effective adult-infant interactions were facilitated by these factors, which thereby facilitated development. Moreover, Goldberg argued that the central reciprocity in early social relationships between infants and parents was mediated by mutual enhancement of "feelings of efficacy", that is, the sense that he or she was effective during the exchange. As positive contingency experiences reinforced these feelings, they contributed to a greater sense of social competency for both infants and parents, resulting in increased motivation to interact. Within this context and with reference to parents, it appeared that "feelings of efficacy" was used in the same way as was "sense of competence" by others. No description of the actual study design or sample was provided, other than mentioning that the model was derived from work with parents and infants who were followed over a two year period.

Entwistle and Doering (1981) studied 120 women and 60 of their husbands prior to the birth of their first child and for one year following the births. The volunteer

parents were obtained through a local childbirth education association, a local diaper service, and friends of parents located in the first two sources. Lengthy face-to-face interviews were conducted with mothers twice before the birth and once afterwards; one telephone interview occurred six months post-birth; breastfeeding behavior was followed by telephone interview to age one year of the baby. Husbands were interviewed once before the birth and once after.

Confidence was one of a number of variables for which data were collected during the parents' pregnancy, birth, and first six months as parents. The intent of the researchers was to provide as broad a picture, and to describe as many facets of the couples' experience, as possible. Mothers and fathers, as individuals, as well as interactions between them, and interactions with their baby, were described. It was found that, prior to birth, many women had unrealistic expectations of their infants' behaviors. For example, 52% expected the infant to sleep through the night before the age of two months. Most mothers expressed confidence in their ability to care for their infant, although 57% had no experience whatsoever with infants less than six weeks old. In general, expectant partners had exaggerated ideas about each other's capabilities with newborns. Following birth, a small but significant relationship was shown between mothers' feelings

of confidence, and when they first reported feeling like a mother ($r = .23$, $p < .01$). For fathers, a higher quality birth experience resulted in greater feelings of confidence.

Sostek, Scanlon, and Abramson (1982) used Seashore, Leifer, Barnett, and Leiderman's (1973) six paired-comparison confidence questionnaires, in combination with a maternal anxiety measure, to evaluate the short-term effects of postpartum contact. Thirty-four primiparous mothers who received varying levels of immediate postpartum contact, as measured in hours, were followed for one year. The measures were administered at two to three days post-birth, four to six weeks post-birth, and six months later by mail. Maternal self-confidence was found to be initially lower in low contact mothers and in mothers who had, for health reasons, been separated from their infants in the neonatal period, but by the second and third measurement, differences were not evidenced. At six months, most mothers preferred themselves almost exclusively as caretakers, and as a result, the confidence measure was not administered at the one year follow-up. The authors concluded that length of contact time was not necessarily a true measure of the quality, or benefit to the mother, of the early contact experience. More recent reviews published concerning issues in bonding support this observation (Leiderman, 1978; Leiderman, 1982; Svejda, Campos, & Emde, 1980; Goldberg, 1983; Lamb & Hwang, 1983).

Summary of Studies Reviewed

The main weakness evidenced across most studies identified in this review was a lack of conceptualization concerning parental sense of competence. The number of different terms used to refer to it, frequently undefined except by the context in which they were used, illustrated this. Compounding this was the occasional overlapping of constructs, as evidenced in Sullivan's (1979) work. Secondly, those studies in which conceptualizing occurred were not heavily used by other researchers in this area, evidencing a lack of integration of previous work. Belsky (1984) related these two by observing that research findings remain unintegrated and underutilized in the absence of conceptual models, capable of integrating disparate findings into a coherent whole that is "greater than the sum of its parts" (p. 83). Thirdly, simultaneous study of mothers and fathers was not always conducted. Among intact Canadian couples, parenting is typically regarded as a joint responsibility, although specific areas of responsibility of mothers and fathers may differ at various times. It is likely that each parent influences their spouse in some dimensions of parenting. These effects are not addressed in studies in which only one parent is studied. Fourthly, the issue of significance of study findings was occasionally

confused with the issue of quality of the measurement scale used.

Strengths of these studies, however, included the attempt in many to study parental sense of competence over a period of time, using a repeated measures design, and the decision in most to use multivariate methods of analysis, rather than univariate or descriptive methods only.

Factors Thought to Influence Parental Sense of Competence

Behavioral Characteristics of the Baby

A considerable amount of literature has been published in this area. In particular, the characteristic of the infant that has received the most attention in terms of influencing parental functioning, is temperament (Belsky, 1984). The assessment and measurement of infant temperament, and of its effects upon parents, has been a frequent subject of parenting research. Thomas, Chess, and Birch published in 1968 what has since been called a "classic" study of infant temperament. Work by Carey (1972, 1974), later revised (Carey, 1978; Carey & McDevitt, 1978), was one of the next attempts to systematically assess and measure infant temperament. Brazelton (1973, 1984) expanded the concept of infant temperament assessment to a scale which assessed the behavioral repertoire of the newborn in an interactive situation.

Variations of both the Carey and Brazelton scales have been used as a basis for numerous early intervention programs and experimental studies in early parent-infant interaction, although the Brazelton scale is more frequently used. Both scales allow for the identification of babies with whom interactions and caregiving can be classified as relatively easy or relatively difficult, thereby providing an opportunity to study effects of these differences on parenting. There is little question that parents of difficult babies experience more stress during the transition to parenthood than do parents of easy babies. A number of researchers have shown that excessive infant crying and irritability are associated with parental feelings of disappointment, helplessness, fatigue, and even anger or rejection of the baby (Shereshefsky & Yarrow, 1973; Korner, 1974; Campbell, 1979; Sirignano & Lachman, 1985; Wilkie & Ames, 1986).

Attempting to account for this, some researchers suggest that initial irritability of young babies can lead to a cycle of unresponsiveness and inconsistency in parents, the overall effect being that the infants struggle to make their needs known through intensified irritability (Bell & Ainsworth, 1972; Osofsky & Danzger, 1974; Aleksandrowicz & Aleksandrowicz, 1975; Crockenberg & Smith, 1982; Roberts, 1983; Belsky, Rovine, & Taylor, 1984). Research remains contradictory with respect to the causal links between

infant irritability and maternal contact and responsiveness (Crockenberg & Smith, 1982). Perhaps part of the explanation for this can be attributed to the parents' perceived meaning of their infant's irritability. Infant behavior can have symbolic meaning for parents; crying, for example, may be interpreted as a signal for care, a sign of rejection, or a willful demand (Roberts, 1983). Roberts further states that the importance of the meaning of infant behavior for the transition to parenthood lies in its impact on the self-concept of the parent as "parent". Perceived infant behavior is, therefore, likely to have an influence upon parental sense of competence.

Social Support

Social support has been described in various ways in health-related research. There is a lack of conceptual agreement on what it is, and how it functions to protect health or buffer the effects of stressors (Norbeck, Lindsey, & Carrieri, 1981; Cohen & Wills, 1985). It has been shown to be an important variable in health outcomes, although certain aspects of social support crucial in some situations may not be important in others (Norbeck, Lindsey, & Carrieri, 1981). The belief that social support is a critical function of an individual's social network is generally held (Brandt & Weinert, 1981).

Descriptions of social support vary. It has been associated with the availability of a spouse or confidant, close ties with friends, and the nearness of relatives. Feedback that leads individuals to believe that they are loved, esteemed, and a member of a network with mutual obligations, may reflect support (Cobb, 1976). As many other definitions are also suggested, it appears that the concept of social support remains unspecified (Brandt & Weinert, 1981).

Social support during pregnancy and the transition to parenthood appears important. In one study, the rate of pregnancy complications was found to be three times as high in women with high life stress and low psychosocial assets (including support) than in women with equally high stress but high psychosocial assets during early pregnancy (Nuckolls, Cassel, and Kaplan, 1972). Social isolation has been identified as a risk condition and associated with parental dysfunction, as in the case of child abuse (Belsky, 1984). The presence of a close social network during the child's preschool years has been positively associated with parents' sense of competence in the caregiving role (Abernethy, 1973). It seems likely that the availability of significant others, and the support received from them, positively influences parental sense of competence during the transition to parenthood.

Other Factors

Numerous other factors may influence parental sense of competence, but in this study only a selected number were included for examination. It was hoped that some further insight into parental sense of competence would be gained through study of their effects.

Age, gender, and socioeconomic status, are important sociological predictors which are typically included in most studies of parents, and were included for study here. Education, occupation, and income were indicators used to partially assess socioeconomic status.

Work was one of the determinants identified in the parenting model used in this study, and was discussed by Belsky (1984) as having both direct and indirect effects on parenting. Items measuring the security of and satisfaction with employment were included.

Changes in usual sleep patterns and fatigue experienced by parents during adjustment to parenthood can have potentially negative effects (Rubin, 1984; Campbell, 1985; Errante, 1985). Items measuring hours of sleep pre-pregnancy and post-pregnancy, and perceived energy level, were included.

Several variables which Entwisle and Doering (1981) found associated with the quality of the early parenthood experience were included in this study. They were: pre-birth anxiety levels, planned or unexpected pregnancy,

health problems experienced by the mother during pregnancy, perceived difficulty of and satisfaction with the labour and delivery experience, plans for and satisfaction with infant feeding, and perceived competence of the spouse. Several of these variables were also associated with reported feelings of confidence in the parents studied by Entwisle and Doering.

Items concerning cigarette smoking and other tobacco use by parents were included for two reasons. Firstly, a higher incidence of upper respiratory infection (URI) in children of cigarette smokers has been well established. Infants with URI's are typically irritable, and feed and sleep poorly. It is possible, then, that cigarette smoking may indirectly contribute to perceived difficulty in caring for the baby, if the baby is more prone to minor illness. A single paper concerning parental smoking and infant colic was found (Said, Patois, & Lellouch, 1984). Secondly, cigarette smokers tend to smoke more when under stress, such as increased anxiety, or fatigue. Patterns of smoking may therefore be associated with these items.

There are numerous other factors identified in the parenting literature which are likely to influence parental sense of competence, either directly or indirectly. The few factors named here were selected for examination in this study based upon evidence found in the research literature, and previous experience and interest of the researcher.

Factor selection was also influenced by scope and practical limitations of the study.

CHAPTER III

METHODOLOGY

Study Design

This study can be described as a four-panel survey. As such, its purpose was to examine the effects of the variables studied, and the relationships between them, over time. This was done with a sample of individuals naturally exposed to varying levels of these variables in a situation common to all subjects, namely, new parenthood.

For most of the analysis, the unit of analysis used was the first-time parent, where mothers and fathers were treated as separate cases. In one series of regressions, however, mother-father couples became the unit of analysis. The dependent variable was identified as parental sense of competence; the major independent variables were, firstly, perceived infant behavioral characteristics, and secondly, perceived social network support. These three were measured at each of the four survey panels. Effects of other independent variables, listed in Chapter II, were also examined. Consistent with survey research theory, none of the variables studied were manipulated, but were measured and statistically controlled ex post facto (Li, 1981).

Instruments

Parenting Sense of Competence Scale

This scale (PSOC) was specifically designed by its author for use in a doctoral dissertation investigating self-esteem and situational stress as factors related to sense of competence in new parents; development and testing of the scale was a major part of this work (Gibaud-Wallston, 1977). At that time, Gibaud-Wallston stated that although most existing instruments measured global self-esteem, empirical evidence suggested that global self-esteem was of less importance in predicting behavior or adjustment in particular situations than was an estimate of the self on dimensions specific to that situation. As no good measure of sense of parenting competence existed, the researcher devised the scale, modeled on Wagner and Morse's (1975) Sense of Job Competence Scale. The wording was appropriately changed to reflect the focus on parenting, and the items were subsequently divided a priori into two subscales. The first subscale, Skill/Knowledge, assessed parents' perceptions of the degree to which they had acquired the skills and understanding to be good parents. The second subscale, Valuing/Comfort, assessed parents' perceptions of the degree to which the individual valued parenthood and was comfortable in that role (Gibaud-Wallston, 1977). The scale, with its subscale designation, is contained in Appendix A.

Initial evidence for internal consistency, reliability, and convergent validity was provided. Item analysis yielded alpha coefficients of .80 for Skill/Knowledge, .69 for Valuing/Comfort, and .80 for total scale. Interscale correlations ranged from .34 to .87, and all were significant ($p < .05$). To determine test-retest reliability, Pearson product-moment correlations were computed for three administrations of the scale over approximately a seven month period. Gibaud-Wallston stated that correlations between administrations were not expected to be high, as the construct was hypothesized to be unstable during the first months; they ranged from .574 to .820 ($p < .01$). Several hypotheses addressing convergent validity of the PSOC were generated and tested, some of these including the use of other scales theoretically related to self-esteem. Although these results were not consistent, the author stated that they provided some evidence for the convergent validity of the PSOC. The author also stated that discriminant validity of the PSOC appeared supported by the relationships demonstrated between it and scores on a social desirability scale, personal feelings scale, and parental attitude scale.

The PSOC consisted of seventeen items, each of which was scored on a six-point scale ranging from "strongly disagree" to "strongly agree". Nine of the items were negatively worded, and the direction of these was reversed

during scoring. After reversal, the total scale score was calculated by summing all items, resulting in a possible scale range of 17 to 102. Eight items comprised the Skill/Knowledge subscale, with a subscale range of 8 to 48, and nine items comprised the Value/Comfort subscale, with a subscale range of 9 to 54. The higher the respondents' scores, the more positive was the rating of parental sense of competence, or its dimensions.

Baby Characteristics Scale

This scale (Baby) was also designed by Gibaud-Wallston (1977), but apparently was not as rigorously tested as the PSOC. It was derived from work by Carey (1970, 1971, 1973), and was designed to rate parents' perceptions of the relative ease or relative difficulty of caring for their baby. The scale consisted of sixteen items which were weighted and summed in the following manner:

1. Parents' reports of colic or allergies were scored as 3, and absence of these conditions was scored as 1.
2. Parents' reports of health problems were scored as 3, and absence of health problems was scored as 1.
3. Parents' reports of daily crying spells were scored as 2, and absence of crying spells was scored as 1, with additional scores assigned to the length of the crying spells - 1 for 1 to 29 minutes, 2 for 30

to 59 minutes, 3 for 60 to 119 minutes, and 4 for 120 minutes or more.

4. Parents' reports that the babies did not sleep through the night were scored as 2, and reports that the babies did sleep through the night were scored as 1.
5. Parents' responses to the six 3-choice items regarding the babies' behaviors during feedings, mood following feedings, and behaviors during dressing, changing, and bathing were scored as 3, 2, or 1 depending on whether the behaviors were difficult, neutral, or easy in terms of parent management.
6. Parents' ratings of their babies on the 5-point scales as crying more or less, and of being more or less tense than the average baby received scores of 5, 4, 3 (average), 2, or 1.
7. Parents' ratings of their babies on the 5-point scales as being less sociable, less happy, and less easy-going than the average baby received scores of 1 or 2.

Summing the items resulted in a single measure, ranging from a low of 15 to a high of 48, where low scores indicated ease in care and high scores indicated difficulty. Although all the behavior described in the items contributed to the ease

or difficulty of baby care, that author stated that it was not anticipated that these items would necessarily correlate highly. An item analysis of the scale produced an alpha of .49 for mothers, and .66 for fathers. A correlation of .61 ($p < .01$) was found between mother and father perceptions of the baby, within each couple (Gibaud-Wallston, 1977). A copy of the Baby scale is contained in Appendix B.

Social Network Support Scale

This scale (Support) was one of three measures used by Gibaud-Wallston (1977) to compute a single index score of perceived overall social support. The Support scale (McMillan, 1976) was used to provide an indication of the general supportiveness of the parents' social network. It was a brief measure, consisting of five items scored on a five-point scale, with one item scored in reverse direction. The items were summed to yield the scale score, which ranged from a low of 0 to a high of 20, where low scores indicated low social network support, and high scores indicated high social network support. The five items dealt with feelings of being loved, and perceptions of having enough friends or others to share with and from whom needed help could be received. It was found that the correlation of mother-father pairs on this measure was .372 ($p < .01$). No item analysis of the total social support index was done, as its components measured different aspects of social support, and

these were not expected to correlate highly (Gibaud-Wallston, 1977). A copy of the Support scale is contained in Appendix C.

Scale Considerations

All three of the scales selected for use in this study were selected on the basis of their specific focus, face value, and brevity. All of these were legitimate concerns, in terms of the time and financial resources which were available to the researcher at the time the study was first designed and proposed. Other more reliable instruments which were considered tended to be lengthy, and therefore impractical, and less specific in focus, providing extraneous information not central to the purposes of this study.

Attempts were made to assess the reliability and construct validity of each scale in this study. Reliability was assessed using Cronbach's alpha as a measure of internal consistency. Construct validity was assessed by asking parents to answer additional items, some of which clearly summarized the intent of each scale, while others measured related constructs. Additionally, as all three scales were used together by Gibaud-Wallston (1977), an opportunity for comparison of findings was presented. As the scales were

used in the same form as described by Gibaud-Wallston, they were not pilot tested prior to their use in this study.

Additional Questionnaire Items

As outlined in Chapter II, a selected number of other variables were included in the study. These items were constructed by the researcher with some guidance from the researcher's thesis committee members, and input from student colleagues. Pilot testing was carried out using four couples, recent first-time parents who were known to the researcher. The intent of this testing was to determine appropriateness of wording, item clarity, item sensitivity, and potential for offensiveness to subjects. The couples involved made several suggestions, which were taken into account as the final draft of these items was prepared. Copies of these items are contained in Appendix D.

The Sample

The couples who participated in this study were obtained from several sources. Two cooperating Edmonton obstetricians agreed to hand out information letters concerning the study to patients whom they saw in the course of their usual office practice; patients who were interested in participating then telephoned the researcher directly, and a home visit was arranged, during which time the parents signed an informed consent form, and could ask

the researcher questions. Each obstetrician was supplied with 20 information letters, and was asked to use the following criteria in selecting possible candidates. The women were to be at the beginning of the last trimester of their pregnancy, expecting the couple's first child; they were to be capable of reading and filling out a questionnaire written in English; and they were to be married or living in a stable common-law relationship. Couples in which either parent had living children from a previous marriage were excluded from the study. Mothers who had experienced a previous spontaneous or therapeutic abortion, or who had surrendered a living child at birth for adoption, were not excluded from the study. Although several telephone calls inquiring about the study were received, only one couple was obtained through this source. This couple was enrolled in a local prenatal class program, offered free of charge to the community, although not one to which the researcher had access.

A local childbirth education association granted the researcher permission to attend a number of its regularly scheduled prenatal classes, in order that volunteers might be solicited. About half of the couples attending these classes lived in the metropolitan Edmonton area, while the remaining half lived in a small city within easy commuting distance of Edmonton. These couples paid a $25 fee, plus

took turns providing refreshments and snacks, for their classes.

Similarly, the three rural health units which border the greater Edmonton area also granted the researcher permission to attend a number of their regularly scheduled prenatal classes. These couples lived in suburban communities and small towns within commuting distance of Edmonton, or in the surrounding rural area. These classes were provided free of charge to the community.

Additionally, two other couples contacted the researcher after hearing about the study. They were friends of a couple who had previously volunteered, and were interested in participating. Both of these couples were attending prenatal classes offered by another local childbirth education program that the researcher was not accessing, and as they did not differ significantly in any respects from other couples in the study, they were included. These couples paid a $30 fee for their classes.

One hundred and three couples comprised the final sample. All were attending a childbirth education program, and represented a wide range of ages, educational backgrounds, occupations, and incomes. These characteristics are described in detail in Chapter IV.

The following approach was used to inform parents about the study and to ask for interested volunteers. Telephone consultation occurred between the researcher and the several

prenatal class instructors to determine the most convenient time during the class when the researcher could be present. Typically, five minutes was provided, either at the beginning or the end of class, or just before the coffee break, in which the researcher was introduced and the study described. A set format was used by the researcher, and a question period provided for the class participants. Parents who were interested could then approach the researcher, either during the break or after class, sign a consent form, and provide their mailing address and telephone number. Parents who thought they might be interested, but who did not wish to commit themselves at that time, were invited to contact the researcher later, by telephone. Then, a home visit would be arranged so that further questions could be answered, and signing of the consent completed. Copies of the parents' information letter, and informed consent, are found in Appendix E.

Ethical Considerations

It was intended that this survey would collect information concerning parental sense of competence as unobtrusively as possible. As participation was volunteer, parents were able to continue or terminate involvement as they wished. The following points were outlined verbally to parents during introduction of the study, and were replicated in written form within the information letter and

consent. They are based on guidelines issued by the Canadian Nurses Association (1983) and the University of Alberta (1985), concerning ethical treatment of human subjects:

1. Only questionnaire information which parents willingly provided was used in the study. Parents could choose to omit any items they wished.
2. Parents were assured that their medical or nursing care would in no way differ as a result of study participation or non-participation, due to the independent nature of the study.
3. Parents were informed that they would receive no direct benefits from the study, although all parents would be mailed a final report of the study. No risks to parents were anticipated by study involvement.
4. Confidentiality of participants was safeguarded through the use of blind number coding of the questionnaires, and shredding of all materials containing names, addresses, and telephone numbers, following mailing of the final report.
5. The named researcher was primarily responsible for conducting and safeguarding all steps of the data collection phase, indeed, of the entire study. Ongoing discussion of the study with thesis committee members, or other consultants, was

similarly confidential.

6. Parents were informed that brief telephone contact concerning their desire to continue in the study might occur if questionnaires were not returned.
7. Parents were provided with the researcher's office address, and home telephone number, as well as the researcher's supervisor's campus address and telephone number, and were invited to call or write if they had any questions or comments.

Lastly, parents were informed of the possibility of, and granted permission for, secondary data analysis of the data by the researcher. If planned, prior ethical approval of such work would be sought by the researcher.

Data Collection

Four separate pairs of questionnaires containing the three scales and additional items were mailed to parents, with instructions to complete them at the following times: one to two months prior to the baby's anticipated birth, during the mother and baby's postpartum hospital stay, one month following the baby's birth, and three months following the baby's birth. Mothers and fathers filled in separate but parallel questionnaires, and were asked not to discuss their answers with each other, as their independent perceptions were important to the researcher. All postage and mailing costs were covered by the researcher.

As most initial contact with the parents occurred at the beginning or middle of the third trimester, most parents received the first two questionnaires almost immediately. The average "turn around" time for questionnaires, with or without telephone prompting two to three weeks post-mailing, was about one month. Therefore, it was necessary that parents receive the second questionnaire with the initial one, so that they could place it in the mother's hospital suitcase to take with them, prior to the birth. The remaining couples, who were in the second trimester of pregnancy, did not receive their initial questionnaire immediately and a telephone call was made to them prior to the first mail out. Instructions accompanied each questionnaire, copies of which are contained in Appendix F.

It became apparent, just before the study began, that changes to the instructions for completion of the second questionnaire were required. Some of the parents planned to deliver their babies in a hospital with an early discharge program in place, and would be home within 48 hours of the birth. Therefore, an additional clause was added to the information letter, asking parents to complete the second questionnaire at home within a week of their baby's birth, if time did not permit them to do so in hospital. The addition of this clause was unexpectedly advantageous later in the study, as a 17 day nurses' strike during February 1988 resulted in the early discharge of several other

couples in the study. Possible differences between those parents who completed the second questionnaire in hospital, and those who completed it at home, were examined during data analysis.

Other unexpected events also occurred during the course of the study which influenced data collection. Two postal strikes occurred, one by letter carriers, and one by inside workers. Prior to these taking effect, a number of couples received their questionnaires early, and in an explanatory note, were asked to delay answering the questionnaires until a specified time. As both of these strikes continued, some parents' questionnaires were hand-delivered to the couples' homes by a courier.

Data Analysis

All reading and coding of the questionnaires was done by the researcher, who was blind to the identity of the respondents. Entering of the data was accomplished with the help of an assistant, who was similarly blind to the identity of the respondents. The data was entered in a multivariate setup, in which all of a subject's scores across occasions resided in the same case (SPSSx user's guide, 1986). Mothers and fathers were coded as separate cases.

After cleaning the data, and sorting it according to gender of the parent, four basic steps were followed. The

first step involved the calculation of frequencies and descriptive statistics for each variable. Secondly, a series of transformations were done to calculate the three scale scores across the four measurement intervals. This was followed by reliability analysis of each scale at each interval, and repeated measures reliability. Thirdly, the occupational data, which was originally coded according to the Statistics Canada standard occupational classification (1980), was recoded using the Pineo-Porter-McRoberts socioeconomic classification (Pineo, 1984). Fourthly, tests of significance, and a series of regressions were done to test the research hypotheses. Calculation of correlations between variables occurred at several stages. For those regressions in which the unit of analysis became the couple, rather than the individual parent, the data file was re-read, combining information from mothers and fathers into single cases. For all procedures, the SPSSx users guide, 2nd edition (1986), was used.

During the transformations which resulted in calculation of the scale scores, a conservative approach was taken regarding the inclusion of missing cases. For the PSOC and Baby scales, three missing items were allowed; for the Support scale, one missing item was allowed. The mean score calculated across a respondent's valid items was used in calculating the probable response the respondent would have provided to the items missed. Therefore, the values

substituted for missing items reflected the trend, or answering bias, evidenced in the respondent's valid items. This approach can be taken only in situations where a scale is used, as the items are not considered to be independent of each other. This also explains why some fractional values appear in the frequency distributions of the scales.

The method of data analysis differed in this study from that used by Gibaud-Wallston (1977). In Gibaud-Wallston's dissertation, a 2x2x2 analysis of variance design was used for the main study. There are several disadvantages to this approach. Firstly, classic analysis of variance design is based on the logic of significance testing, involving the comparison of means. It begins with a variable to be predicted, measured on an interval or ratio scale, and one or more predictor variables grouped according to some attribute (Iverson & Norpoth, 1976). Only one of Gibaud-Wallston's major variables partially met this criteria (i.e. membership or non-membership in the parent discussion group). The other two major independent variables, baby characteristics and social support, were transformed and collapsed to meet these assumptions ex post facto. Secondly, in the collapsing of baby characteristics to an "easy" or "difficult" dichotomy, and social support to "low" or "high", the variance of both, as measured on continuous interval scales, was lost.

The method used in this study is based in the theory of regression analysis, the emphasis being prediction and explanation. Regression attempts to measure the "fit" between variables, answering questions concerning the effect of one variable upon another, and the predictive success of a proposed model. Variables entered in these models are typically continuous interval variables; therefore, apart from error, the total effect of their variance is measured. With multiple regression, a fuller explanation of the dependent variable can be attempted, since few occurrences are products of a single cause. The effects of particular independent variables are made more certain, as the possibility of distorting influences from other independent variables are removed (Lewis-Beck, 1980).

As the primary purpose of this study was to better understand parental sense of competence, in a non-experimental situation, the regression approach was favored.

Limitations

Several limitations apply to the generalizability of the findings. Firstly, all couples in the study actively sought out and made time for prenatal class instruction. This set them apart from couples who did not actively seek out external support and sources of information during pregnancy. Additionally, age and income characteristics, as reported in Chapter IV, did not permit generalizing of the

findings to the primiparous prenatal population of Alberta as a whole.

Secondly, three of the determinants identified in the Determinants of parenting model were not studied. Of those that were studied, it must be acknowledged that only some dimensions of each were measured. Therefore, the model provided only a guide for discussion and interpretation of the findings of this study; the strength of the model was not evaluated or tested.

Thirdly, all variables studied reported parents' perceptions of those items. No external measures, for example, of baby characteristics or actual performance competence in parenting, were obtained. Such information might have led to further insight concerning how parents arrive at some sense of their parenting competence.

Fourthly, as the average "turn around" time for questionnaires was approximately one month, some inexactness in the measurement intervals occurred. Due to the volunteer nature of the study, parents completed the questionnaires when it was convenient for them to do so. Fortunately, some of the parents who returned very late questionnaires included comments which aided the researcher's use of their questionnaire information.

All of these conceptual and measurement limitations were a direct result of the practical limitations which were necessarily placed on the study.

CHAPTER IV

STUDY FINDINGS

Introduction

The data collection period of this study spanned 14 months, from June 1987 to July 1988. There was an approximate attrition rate of 20% from the first to the fourth panel, with two more fathers dropping out than mothers.

Examination of characteristics of dropouts revealed a random pattern in terms of the variables studied. However, it was noted during data collection that the highest number of dropouts overall occurred in December. Perhaps the combination of the arrival of a first baby, plus the demands of the holiday season, were not compatible with study participation. Study attrition is reported in Table 1.

Only about half of the parents who failed to return one or more questionnaires were successfully contacted by telephone. Of those parents who were contacted by telephone, the most common reason given for not filling in and mailing back questionnaires was lack of time. In two cases, the baby was born within two days of the parents meeting the researcher, and these parents were therefore unable to complete most of the first questionnaire, as it had not yet reached them by mail. At least three couples forgot to take the second questionnaire with them to hospital, although specific instructions had been given to

Table 1

Completed questionnaires returned

	Measurement time			
Parent	T_1	T_2	T_3	T_4
Mothers	103	98	88	89
Fathers	102	95	86	85

Note. n of cases = 105 (2 sets of twins)

n of couples = 103

T_1 = 3rd trimester pregnancy

T_2 = 1st week postpartum

T_3 = 1 month post-birth

T_4 = 3 months post-birth

all, upon receipt of the second questionnaire, to place it in the mother's hospital suitcase. Three other couples who failed to return the second questionnaire delivered babies with health problems. These babies required hospitalization beyond the mother's discharge date from hospital. One couple was known to have delivered a stillborn infant.

Two sets of twins were born to couples in the study. One of these couples returned all four questionnaires, and the second couple returned three. As these parents filled in two Baby scales, one for each infant, their questionnaire responses were double coded into the data file.

In general, most parents answered all items. Two mothers refused to answer the Baby scale on the first questionnaire, stating that it was not "fair to the baby" to have preset expectations about his or her behavior. The reported time required for completion of questionnaires ranged from 5 to 90 minutes for mothers, and from 3 to 88 minutes for fathers. Several of the parents who reported the longest times indicated that they had been interrupted while completing the questionnaire; some of these parents then indicated the estimated time of the interruption, but some did not. The mean time required for completion of questionnaires was 20.5 minutes for mothers, and 22.0 minutes for fathers.

Overall, the data obtained was much richer than anticipated by the researcher. In addition to answering the

structured items, many parents provided explanations of some of their answers, and included unsolicited anecdotal comments which, on occasion, filled the margins of the questionnaires and continued on the back sides. Regrettably, not all of this information could be integrated into this report.

It became evident during the beginning stages of data analysis that there were inconsistencies in the PSOC scale. Therefore, discussion of the scale, and scale analysis issues, are separately dealt with in Chapter V. For purposes of this chapter, it was assumed that all scale values accurately reflected the intended constructs measured.

Chapter IV is organized in the following manner. Firstly, the study sample and its characteristics are outlined. Then, correlations between the three major variables studied, and the significance of these, in relation to the five research hypotheses outlined in Chapter I, are discussed. This is followed by discussion of findings from other variables not specifically identified in the research hypotheses. Lastly, discussion of the regression analyses expands and integrates the findings from the study as a whole. Throughout reporting of the findings, the four measurement times are referred to, respectively, as T_1, T_2, T_3, and T_4.

Characteristics of the Sample

The distributions of parents' responses to the variables discussed in this section are reported in Appendix G. The characteristics of parents comprising the sample varied greatly, although some skewing was observed within age and income.

Mothers ranged in age from 17 to 40 years, with a mean age of 26.6 years. Fifty-three percent of mothers were 27 years old or older, that is, "elderly primiparas", which differed significantly from the provincial average of 36.4% across the same age range (Vital Statistics Annual Review, 1986). This possibly reflected the age distribution of mothers in the prenatal classes accessed by the researcher, or possibly reflected the ages of mothers who chose to volunteer for the study. Fathers ranged in age from 20 to 41 years, with a mean age of 28.6 years. Age was not significantly correlated with parental sense of competence scores for either parent at any of the measurement times.

Educational preparation for mothers ranged from incomplete high school to completed university masters degrees, with the average background at the midpoint between completed non-university post-secondary education and incomplete university education. Thirty-two percent of mothers had partially or fully completed high school, 18% had completed technical or diploma post-secondary education, and 26% held baccalaureate degrees. Fathers' educational

background ranged from completed junior high school to university doctoral preparation, with the average background occurring in the same range as did the mothers', but slightly lower. Twenty-seven percent of fathers possessed completed high school education or less, 31% had completed technical or diploma post-secondary education, and 23% held baccalaureate degrees. Education was not significantly correlated with parental sense of competence scores for either parent at any of the measurement times.

Mothers' stated occupations ranged from farm labourers to self-employed professionals, with the average mother employed in a skilled supervisory clerical or sales position. Twenty-four percent of mothers were employed in semi-skilled clerical, sales, or service positions, 14% in semi-professional occupations, and 26% were employed professionals. Fathers' stated occupations covered the same range as mothers, with the average father employed as a foreman. Nineteen percent of fathers were skilled craftsmen or tradesmen, and 18% were employed professionals. It appeared for both mothers and fathers that skilled and unskilled occupations were equally represented.

The Pineo-Porter-McRoberts socioeconomic classification (Pineo, 1984) was used to recode parents' standard occupational classifications (Statistics Canada, 1981) into grouped categories. The Pineo-Porter-McRoberts classification was chosen for use in this study for two

reasons. It provided a higher ranking for farm owners and operators than did another commonly used classification, and all of the farmers included in this study possessed post-secondary educational preparation. This set them apart from unskilled farm labourers, with whom they might otherwise have been coded. Secondly, there was a large enough number of mothers in the sample to distinguish between levels of the clerical-sales occupations, which was original to this classification, and the status of these occupations was not exaggerated (Pineo, 1984). However, housewives and students were excluded from the classification (i.e. housewives and students were coded as zero), which resulted in the loss of two mothers and three fathers from the recoded occupational distribution.

A significant correlation between occupation and parental sense of competence was not demonstrated for fathers by either the continuous or grouped occupational codes. However, a weak negative relationship was evidenced for mothers between occupation as a continuous variable, and parental sense of competence scores at T_1 and T_4 (respectively, $r = -.325$, $p = .001$; $r = -.281$, $p = .008$). This suggested that mothers at the upper end of the occupational spectrum experienced lower levels of parental sense of competence prior to the birth of their babies, and again when their babies were three months old.

Sixty-six percent of mothers stated at T_1 that they were presently employed in their preferred line of work, or were on maternity leave with a guarantee of their former or a similar job available upon their return. Seventy percent of fathers stated they were employed in their preferred line of work. Three percent of mothers and fathers were "laid off" work, that is, unemployed not by their own choice. Eighty-seven percent of mothers and 82% of fathers stated in the first questionnaire that they were satisfied with their present employment status.

By T_4, 5% of mothers were employed in their preferred line of work, 50% were on maternity leave with a job guaranteed upon their return to work, and 29% stated they were unemployed and had planned to be so. Sixty-three percent of fathers were employed in their preferred line of work. Seventy-eight percent of mothers and 86% of fathers expressed satisfaction with their employment status at that time.

Stated employment status was not significantly correlated with parental sense of competence at any of the measurement intervals for mothers or fathers. For mothers, satisfaction with current employment status was weakly correlated with parental sense of competence at T_3 and T_4 (respectively, $r = .220$, $p = .031$; $r = .257$, $p = .017$). For fathers, satisfaction with current employment status was weakly correlated with parental sense of competence at T_1,

and approached significance at T_2 (respectively, r = .223, p = .024; r = .198, p = .056).

Income was assessed by asking parents to estimate the gross family income for the past year. Virtually all parents who completed the fourth questionnaire answered this potentially sensitive item, but 20% of respondents were, by that time, missing from the study. Of those that answered, 50% reported incomes greater than $50,000, and one-third reported incomes greater than $60,000. Only three couples reported an income of less than $20,000. Therefore, this sample represented upper middle class families.

For mothers, income was weakly correlated with parental sense of competence scores at T_1, T_3, and T_4 (respectively, r = .222, p = .044; r = .303, p = .007; r = .300, p = .005). For fathers, income was weakly correlated with parental sense of competence scores only at T_4 (r = .251, p = .022). Most of the parents were employed prior to the birth of their baby, and were therefore accustomed to two incomes. Perhaps the fact that the mother's contribution to the family income might be in question during the pregnancy and following the birth explains why, for mothers, income was weakly correlated with parental sense of competence at three of the four times. Perhaps potential loss of income was a sensitive issue for these mothers, related to the change in role of having been a visible financial contributor, while

now assuming a new role for which monetary compensation was not received.

Research Question and Hypothesis 1

Prior to the birth of their babies, most parents were able to rate their anticipated parental sense of competence, anticipate images of their infants in terms of their behavior, and describe their satisfaction with social network support. As noted earlier, two mothers refused to complete the Baby scale in the first questionnaire, and several parents omitted various items contained in the PSOC scale. Frequently, the reason given for this was that it was difficult to decide on an "absolute" answer, and many parents provided comments which indicated that several possibilities existed for them on these items, dependent upon personal interpretation, and the "playing ahead" of possible scenarios. Ambivalence was evident in many of the parents' comments. However, in most cases, parents did indicate a single choice as their answer.

Parental sense of competence was positively described prior to the babies' births, with the mean scale values for both mothers and fathers exceeding the scale midpoint. Fathers' scores were slightly higher than mothers' scores, and this difference approached significance (respectively, 68.312 and 70.707; t (101) = 1.95, p = .055).

The mean values for mothers' and fathers' scores on the Skill/Knowledge subscale were similar, both of these occurring slightly above the subscale midpoint (raw score values of 30.126 and 30.555, respectively). However, a significant difference was observed between mothers' and fathers' mean scores on the Value/Comfort subscale (respectively, 38.186 and 40.152; $t(100) = -2.58$, $p = .011$).

Anticipated baby characteristics were, on the average, neutrally described, with mean scale values for both mothers and fathers falling short of the scale midpoint. Mothers' scores were slightly higher than fathers' scores, but this difference was not significant. The highest scores on this scale, for both mothers and fathers, occurred at T_1. This indicated that anticipated infant characteristics were perceived more negatively than were actually experienced infant characteristics. For both mothers and fathers, this most negative rating of anticipated infant characteristics differed significantly from the ratings obtained at all three of the subsequent measurement times. Mean scale values are listed in Table 2, and scale correlations and t-test results are contained in Tables 3, 4, and 5.

Therefore, Research Hypothesis 1 was supported, although not in the manner in which the researcher had anticipated. The researcher had anticipated that parents would rate their infants more positively prior to birth, and

Table 2

Mean scale values

Scale	Mothers	Fathers
PSOC1	68.312	70.707
PSOC2	74.152	74.407
PSOC3	75.132	76.598
PSOC4	79.758	78.492
subSK1	30.126	30.555
subSK2	31.741	31.096
subSK3	34.604	34.063
subSK4	36.792	35.183
subVC1	38.186	40.152
subVC2	42.353	43.313
subVC3	40.523	42.533
subVC4	42.910	43.294
Baby1	28.510	28.041
Baby2	26.061	25.222
Baby3	25.442	25.301
Baby4	23.416	23.341
Support1	15.079	16.284
Support2	16.735	16.716
Support3	16.045	16.482
Support4	16.048	16.565

Key:

PSOC - Parental Sense of Competence scale (full scale)
subSK - Skill/Knowledge subscale
subVC - Value/Comfort subscale
Baby - Baby Characteristics scale
Support - Social Network Support scale
1 to 4 - respective measurement times

Note. Possible scale ranges, and absolute scale midpoints:

	PSOC	subSK	subVC	Baby	Support
Range	17-102	8-48	9-54	15-48	0-20
Midpoint	59.5	28	31.5	31.5	10

Table 3

Correlations & tests of significance

Parental Sense of Competence - total scale

	PSOCM1	PSOCM2	PSOCM3	PSOCM4	PSOCF1	PSOCF2	PSOCF3
PSOCM2	.562 .000 -6.84 95 .000						
PSOCM3	.577 .000 -7.31 85 .000	.662 .000 -0.67 87 .506					
PSOCM4	.563 .000 -12.80 86 .000	.670 .000 -6.68 87 .000	.834 .000 -7.33 82 .000				
PSOCF1	.052 .603 -1.95 101 .055						
PSOCF2		.277 .007 -.15 94 .879			.656 .000 -4.12 92 .000		
PSOCF3			.252 .019 -1.11 85 .272		.599 .000 -6.22 83 .000	.722 .000 -2.55 85 .013	
PSOCF4				.345 .001 1.00 84 .321	.420 .000 -6.80 82 .000	.632 .000 -4.68 83 .000	.826 .000 -2.78 79 .007

Cell key: Pearson r correlation
Significance of r (2-tail)
t-difference of means
Degrees of freedom of t
Significance of t (2-tail)

PSOC - Parental Sense of Competence scale
M - Mothers
F - Fathers
1 to 4 - Respective measurement times

Table 4

Correlations & tests of significance

Parental Sense of Competence - Skill/Knowledge subscale

	M1subSK	M2subSK	M3subSK	M4subSK	F1subSK	F2subSK	F3subSK
M2subSK	.386 .000 -3.12 94 .002						
M3subSK	.524 .000 -8.77 85 .000	.593 .000 -5.32 86 .000					
M4subSK	.442 .000 -12.68 85 .000	.619 .000 -10.64 87 .000	.769 .000 -6.42 82 .000				
F1subSK	.021 .833 -.57 101 .569						
F2subSK		.144 .166 .89 93 .374			.604 .000 -.84 92 .401		
F3subSK			.151 .167 .75 85 .457		.586 .000 -7.31 83 .000	.722 .000 -6.97 85 .000	
F4subSK				.323 .003 2.39 83 .019	.473 .000 -8.11 82 .000	.598 .000 -7.75 83 .000	.801 .000 -2.95 79 .004

Cell key: Pearson r correlation
Significance of r (2-tail)
t-difference of means
Degrees of freedom of t
Significance of t (2-tail)

subSK - Skill/Knowledge subscale
M - Mothers
F - Fathers
1 to 4 - Respective measurement times

Table 5

Correlations & tests of significance

Parental Sense of Competence - Value/Comfort subscale

	M1subVC	M2subVC	M3subVC	M4subVC	F1subVC	F2subVC	F3subVC
M2subVC	.471 .000 -6.76 95 .000						
M3subVC	.532 .000 -3.85 85 .000	.568 .000 -3.23 87 .002					
M4subVC	.466 .000 -7.37 86 .000	.545 .000 -.89 87 .374	.777 .000 -5.05 82 .000				
F1subVC	.112 .265 -2.58 100 .011						
F2subVC		.295 .004 -1.29 94 .200			.595 .000 -5.59 91 .000		
F3subVC			.234 .030 -2.47 85 .015		.548 .000 -3.40 82 .001	.669 .000 2.24 85 .027	
F4subVC				.235 .030 -.54 84 .587	.454 .000 -4.24 81 .000	.660 .000 -.07 83 .941	.819 .000 -1.78 79 .079

Cell key: Pearson r correlation
Significance of r (2-tail)
t-difference of means
Degrees of freedom of t
Significance of t (2-tail)

subVC = Value/Comfort subscale
M = Mothers
F = Fathers
1 to 4 = Respective measurement times

that this rating would decrease as normal difficulties and frustrations were encountered over time. In fact, as indicated by the Baby scale values, the opposite actually occurred. Parents seemed prepared for the arrival of a more difficult baby than most of them actually experienced.

Satisfaction with social network support was positively rated by both mothers and fathers prior to the babies' births, with respective mean scores of 15.079 and 16.284. Fifty-eight percent of mothers and sixty-four percent of fathers ranked their satisfaction with social network support in the upper quarter of the scale's range. Fathers' mean ratings were higher than mothers' mean ratings, but this difference was not significant. Satisfaction with social network support remained high and generally stable across the four measurement times.

Research Question and Hypothesis 2

Sense of competence scores increased across the four measurement times for both mothers and fathers, with the lowest scores occurring prior to the babies' births. The pattern and significance of this change is reported in Tables 2 and 3, and depicted in Figure 2.

Scores on the Skill/Knowledge subscale similarly increased across the four measurement times for both mothers and fathers, with the lowest scores occurring prior to the babies' births. The pattern and significance of this change

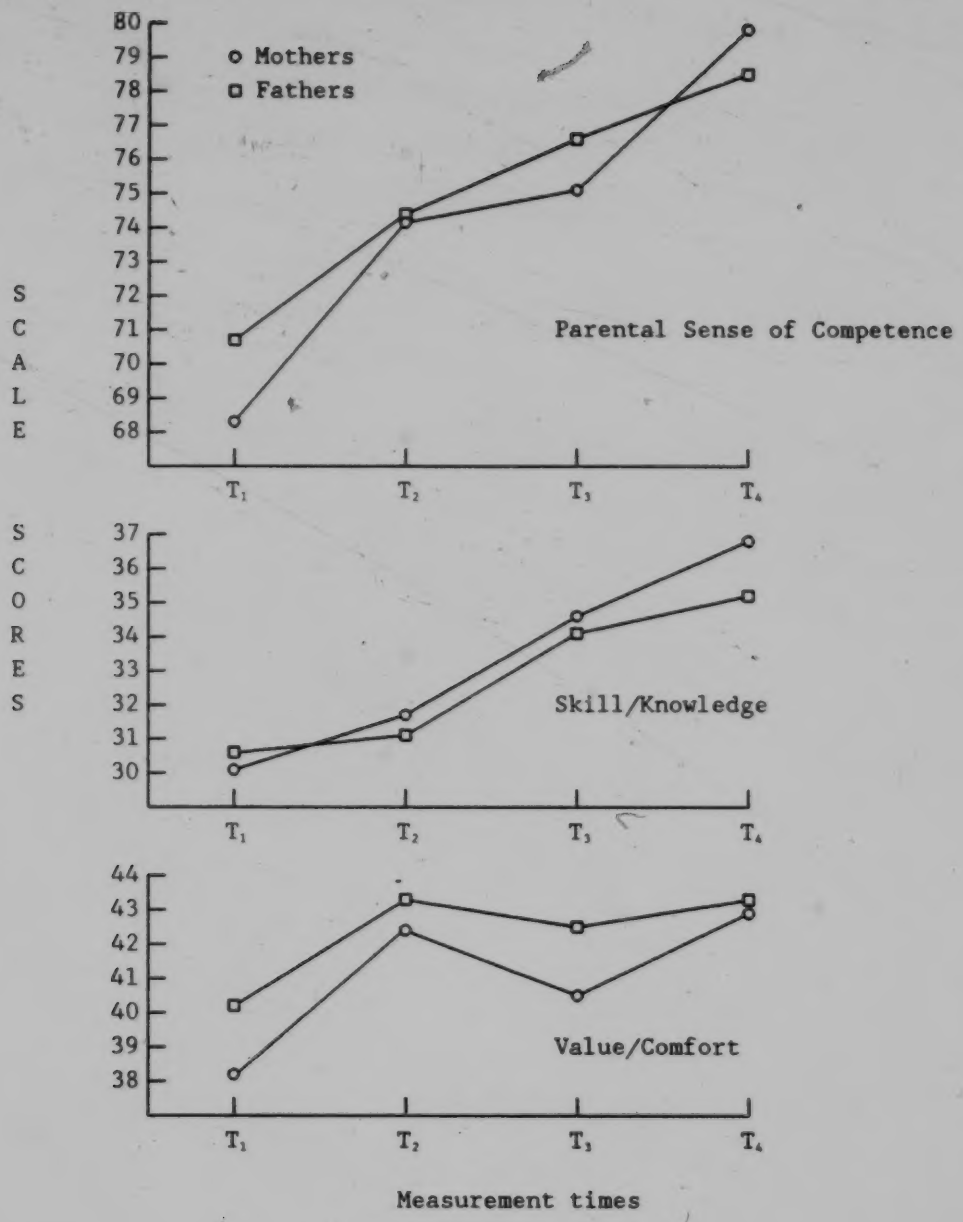

Figure 2. Pattern of change in Parental Sense of Competence scale and subscales (mean values).

is reported in Tables 2 and 4, and depicted in Figure 2.

A different pattern of change was observed for scores on the Value/Comfort subscale. For both mothers and fathers, the lowest Value/Comfort scores occurred prior to the babies' births. However, unlike the PSOC and the Skill/Knowledge subscale, mothers' and fathers' scores increased at T_2, decreased at T_3, and increased again at T_4 to a level which did not differ significantly from that obtained at T_2. Therefore, although Hypothesis 2 was not supported by the findings, there was evidence that a comparative decrease in the Value/Comfort subscale occurred at T_3. The pattern and significance of this change is reported in Tables 2 and 5, and is depicted in Figure 2.

Perhaps this overall pattern and drop in scores at T_3 of the Value/Comfort subscale reflected what some researchers call "the end of the honeymoon period" with a new baby (Entwisle & Doering, 1981). The first month is typically reported by most new parents to be the most difficult, in terms of adjusting to infant feeding, sleeping, and activity patterns. The increase in scores at T_4 may correspond to the achievement of greater stability and predictability, which many parents report by the time their infants are three months old.

Research Question and Hypothesis 3

Some of the findings which are relevant to this research question and hypothesis are reported in the preceding section, in Tables 3, 4, and 5, and in Figure 2. The first part of Hypothesis 3 (that is, that significantly different PSOC scores would be observed between mothers and fathers at some of the measurement times) was supported, as significant differences were observed between mothers' and fathers' scores on the Skill/Knowledge subscale at T_4 ($t(83) = 2.39$, $p = .019$), and significant differences were also observed between mothers' and fathers' scores on the Value/Comfort subscale at T_1 and T_3 (respectively, $t(100) = -2.58$, $p = .011$; $t(85) = -2.47$, $p = .015$). However, for the complete PSOC scale, a significant difference was only approached at T_1; this has been previously reported.

Although absolute scale scores differed for mothers and fathers across all measurement times, similar patterns of change were observed between them, as depicted in Figure 2. Therefore, the second portion of Hypothesis 3 (that is, that different patterns of change would occur between mothers and fathers) was not supported by the findings.

It was noted that a general increase in strength of mother-father correlations over time in the PSOC scale and its subscales occurred. This suggested that parents' perceptions of parental sense of competence and its dimensions tended to converge as the experience of parenting

continued. Couples' attitudes concerning parental sense of competence, and its dimensions, became more similar rather than dissimilar, with each other, over time.

During this stage of analysis, PSOC scores of mothers and fathers who had completed the second questionnaire in hospital were compared with those who had completed the questionnaire in the first week at home. The concern of the researcher was that the scores of these groups might differ, as in hospital, hands-on help and support was immediately available on a 24-hour basis, whereas at home, this might not be the case. However, these groups did not differ significantly, and therefore they were not distinguished in any subsequent stages of analysis (for mothers, $t(77) = 1.29$, $p = .203$; for fathers, $t(70) = 1.61$, $p = .111$).

Research Question and Hypothesis 4

For mothers, the correlations between parental sense of competence and perceived infant characteristics were, respectively, $r = -.420$, $r = -.446$, $r = -.466$, and $r = -.348$. All four were significant at $p = .000$. For fathers, the correlations were, respectively: $r = -.184$, $p = .072$; $r = -.336$, $p = .001$; $r = -.395$, $p = .000$; $r = -.332$, $p = .002$.

The negative relationships evidenced between mothers' and fathers' parental sense of competence and perceived infant characteristics supported Hypothesis 4. As parents' scores on the baby characteristics scale increased,

Table 6

t-tests of mean differences in Parental Sense of Competence scores, as influenced by perceived easy or difficult baby characteristics.

Measurement time	t	df	p(1-tail)
Mothers			
1	3.49	98	0.001
2	3.75	96	0.000
3	4.26	84	0.000
4	2.44	87	0.009
Fathers			
1	2.36	95	0.011
2	3.08	88	0.002
3	3.70	81	0.000
4	1.99	83	0.025

Note. Pooled variance estimates reported.

reflecting a more difficult baby, their scores on the parental sense of competence scale tended to decrease. This effect was stronger for mothers.

T-tests of significance were conducted by dividing the Baby scores into "easy" and "difficult" groups, using the approximated median of the scale to divide the scores. As the mean scores of the Baby scale decreased over the four measurement times, and the median shifted, the range of absolute values which comprised each group varied. These results are reported in Table 6. Significant differences in parental sense of competence scores were clearly evidenced between the two groups.

Therefore, the hypothesis that parents who perceived their infants as difficult would have lower parental sense of competence scores received support.

Research Question and Hypothesis 5

For mothers, the correlations between parental sense of competence and satisfaction with social network support at the four measurements were, respectively: $r = .226$, $p = .022$; $r = .130$, $p = .203$; $r = .261$, $p = .014$; $r = .311$, $p = .003$. A similar pattern was observed for fathers, their respective correlations being: $r = .301$, $p = .002$; $r = .135$, $p = .192$; $r = .376$, $p = .000$; $r = .293$, $p = .007$.

It was speculated that the lack of significance of social network support for both mothers and fathers at T_2

Table 7

t-tests of mean differences in Parental Sense of Competence scores, as influenced by perceived low or high social network support.

Measurement time	*t*	*df*	*p*(1-tail)
Mothers			
1	-2.71	101	0.004
2	-1.20	96	0.117
3	-2.81	86	0.003
4	-1.83	87	0.036
Fathers			
1	-2.37	100	0.010
2	-0.60	93	0.274
3	-2.38	83	0.010
4	-1.75	83	0.042

Note. Pooled variance estimates reported

was due to the overriding influence of the event of the babies' arrival. The large focus of attention given exclusively to newborns by mothers in the early postpartum period has been called "engrossment" (Entwisle & Doering, 1981). It appeared that fathers also may have experienced the effects of engrossment.

T-tests of significance were conducted by dividing the support scores into "low" and "high" groups, using the approximated median of the scale to divide the scores. In mothers, only one median shift was observed, which occurred at T_1, and in fathers, the median value was constant across the four measurement times. These results are reported in Table 7.

It was again apparent that, with the exception of T_2, significant differences in sense of competence scores existed between the two groups. Therefore, the hypothesis that parents who experienced low social network support would have lower parental sense of competence scores received support. However, the fact that the variance observed in the Support scale was comparatively low, because the majority of parents expressed a high degree of satisfaction with social support on all measures, influenced interpretation of these findings.

Other Variables

Other variables which were included for study are briefly discussed here, presented primarily in descriptive terms. Effects of other variables as predictors of parental sense of competence are subsequently reported in "Regression Analysis".

Sleep

Mothers averaged over eight hours of continuous sleep nightly, prior to the beginning of their pregnancies. At T_1 (age one month of the babies), mothers reported an average of four and one-half hours sleep nightly. Hours of nightly continuous sleep were weakly correlated with reported energy levels at one month (r = .220, p = .040). By age three months of the baby, average uninterrupted nightly sleep increased to six and one-half hours, and was no longer significantly correlated with reported energy levels. Fathers averaged over seven hours of uninterrupted nightly sleep prior to the pregnancy, which decreased to six hours nightly at babies' age of one month. Fathers' reported energy levels were not significantly correlated with hours of sleep at this time, but at babies' age of three months, when fathers' average nightly sleep had increased to almost seven hours, a significant correlation with reported energy levels was found (r = .260, p = .016). This indicated that

sleep was not the only predictor of reported energy levels in new parents.

Mothers' reported energy levels were weakly correlated with parental sense of competence scores at T_3 and T_4 (respectively, $r = .221$, $p = .038$; $r = .2965$, $p = .005$). A significant difference in parental competence scores was found between mothers who reported feeling less energetic and those who felt more energetic at T_4 ($t(46) = -2.65$, $p = .011$). Perhaps the significance of this difference was partially a product of the accumulated fatigue experienced by mothers since the birth of their babies.

Fathers' reported energy levels were weakly correlated with parental sense of competence scores at T_3 and T_4, but this relationship was significant only at T_4 (respectively, $r = .132$, $p = .225$; $r = .221$, $p = .042$). A significant difference in parental sense of competence scores between less energetic and more energetic fathers was not found. Perhaps this indicated that, for fathers, fatigue did not have as much of an impact as it did for mothers, partly because fathers' sleep patterns were not as dramatically altered.

Anxiety

Parents were asked to rate their anxiety about becoming or being a parent by using a six-point scale, where 1 indicated extreme worry and anxiety, and 6 indicated a

relaxed, confident attitude. Therefore, parenting anxiety and parental sense of competence were scored in opposite direction, and their relationship was shown to be negative. Average parental anxiety steadily decreased across the four measurement times for both mothers and fathers, and at all four times, exceeded the scale value of 4. Pearson correlations between mothers' anxiety and parental sense of competence scores were, respectively: $r = .513$, $p = .000$; $r = .605$, $p = .000$; $r = .541$, $p = .000$; $r = .605$, $p = .000$. For fathers, correlations between anxiety and parental sense of competence scores were, respectively: $r = .496$, $p = .000$; $r = .637$, $p = .000$; $r = .711$, $p = .000$; $r = .606$, $p = .000$. This negative relationship between parenting anxiety and parental sense of competence scores appeared to be one of the strongest evidenced in the findings.

For mothers, differences in parental sense of competence scores between mothers who reported lower or higher anxiety levels were highly significant at all four measurement times (respectively, $t(101) = -4.85$, $p = .000$; $t(95) = -5.35$, $p = .000$; $t(86) = -4.51$, $p = .000$; $t(87) = -3.63$, $p = .000$). For fathers, these differences were also, but not as highly, significant (respectively, $t(100) = -3.57$, $p = .001$; $t(93) = -4.76$, $p = .000$; $t(84) = -4.16$, $p = .000$; $t(83) = -2.20$, $p = .031$).

Planned or Unplanned Pregnancy

Parents were asked, as the last question on the first questionnaire, whether or not they had planned the pregnancy. Possible answers were "yes", "sort of", and "no". Answers of both parents closely resembled each other, and most parents indicated in their scoring of this item, as well as in additional comments, that their pregnancy was desired, although its occurrence at this point frequently was not within the time frame they ideally had hoped for. All correlations calculated for mothers were of zero order, and for fathers, two that were not of zero order did not attain significance (at T_1, r = .133, p = .203; at T_3, r = .145, p = .187). No significant differences in parental sense of competence scores were found between parents whose pregnancies were planned and those whose pregnancies were not. Respectively, for mothers: $t(17.25)$ = .37, p = .716; $t(69)$ = -.34, p = .735; $t(63)$ = .41, p = .681; $t(64)$ = .49, p = .626. Respectively, for fathers: $t(75)$ = -.74, p = .462; $t(71)$ = -1.71, p = .091; $t(66)$ = -1.41, p = .162; $t(67)$ = -.68, p = .497).

Previous Baby Experience

At the first measurement interval, parents were asked to rate their previous baby experience on a six-point scale, where 1 indicated no experience whatsoever, and 6 indicated a great deal of experience. Both parents evidenced lower

levels of experience. Sixty percent of mothers rated their previous baby experience in the lower half of the scale, with a mean rating for this item of 3.029. Less than 4% of mothers reported a rating of 6, and less than 14% reported a rating of 5. For fathers, 73% rated their previous baby experience in the lower third of the scale, with a mean rating for this item of 2.010. No fathers reported a rating of 6, and ratings of 4 and 5 were each indicated by approximately 7% of fathers. The only significant differences in parental sense of competence scores found between parents who reported much previous experience with infants and those who reported little, occurred among fathers at T_3 and T_4 (respectively, $t(82) = -2.06$, $p = .043$; $t(81) = -2.21$, $p = .030$).

Health Problems of the Mother During Pregnancy

Parents were asked to rate the seriousness of any health problems experienced by the mother during the pregnancy, using a five-point scale in which 1 or 2 indicated serious health problems, 3 indicated average discomforts only, and 4 or 5 indicated minor or no problems experienced. Mothers and fathers rated the mothers' average experienced health problems at, respectively, 3.808 and 3.660, but the breakdown of this distribution differed between them. For mothers, 8.7% rated their health problems as serious, 29.8% rated their health problems as average,

and 61.6% rated minor or no health problems. For fathers, 9.7% rated their wives' health problems as serious, 38.8% rated their wives' health problems as average, and 51.5% rated minor or no health problems.

Therefore, husbands generally perceived their wives' pregnancy health problems more seriously than did the mothers themselves. This may reflect the degree of concern that husbands hold for their wives' well-being during pregnancy, and their sense of responsibility towards it. A significant difference in parental sense of competence scores between parents who reported more serious concerns, and those who reported few or no concerns, occurred in fathers at T_3 and T_4 (respectively, $t(53) = -1.98$, $p = .056$; $t(53) = -2.51$, $p = .015$).

Perceived Difficulty of and Satisfaction with Labour and Delivery

Parents were asked to rate the difficulty of their labour and delivery experience on a five-point scale, where 1 indicated that it had been much more difficult than expected, 3 indicated that it had been about as expected, and 5 indicated that it had been much less difficult than expected. The mean value for mothers was 2.269, with 66.7% of mothers describing their experience as more difficult than expected, 10.8% describing it as expected, and 22.6% describing it as less difficult than expected. The mean

value for fathers was 2.692, with 44% of fathers describing the experience as more difficult than expected, 25.3% describing it as about as difficult as expected, and 30.8% describing it as less difficult than expected. No significant differences in parental sense of competence scores were observed for mothers or fathers who perceived their labour and deliveries as easy or difficult.

Mothers and fathers generally reported satisfaction with their labour and delivery experience. Asked to rate this item on a six-point scale, where 1 indicated complete dissatisfaction, and 6 indicated complete satisfaction, mean values were, respectively, 4.463 and 4.892. Satisfaction was indicated by 75.8% of mothers and 87.1% of fathers, and dissatisfaction indicated by 24.3% of mothers and 12.9% of fathers. No significant differences in parental sense of competence scores were found between parents who expressed satisfaction or dissatisfaction with their labour and delivery experience. A moderate and highly significant relationship between difficulty of labour and delivery, and satisfaction with labour and delivery was found (for mothers, $r = .5074$, $p = .000$; for fathers, $r = .4261$, $p = .000$).

Infant Crying

Most parents expected more crying in their babies than was later shown to be the case. Parents were asked if their

babies experienced crying spells, and if so, the length of time that crying spells lasted. Prior to the babies' births, 71% of parents expected that their infants would have daily crying spells, ranging from ten minutes to six hours, and averaging 52 minutes. Immediately following the birth, 63% of parents reported crying spells, ranging from five minutes to three hours, which averaged only 15 minutes. At age one month of the babies, 50% of parents reported crying spells, ranging from five minutes to three hours, which averaged 37 minutes. By age three months of the babies, 38% of parents reported crying spells, ranging from five minutes to three hours, which averaged 15 minutes. For mothers, crying was negatively and weakly correlated with parental sense of competence at all four times (respectively, $r = -.132$, $p = .039$; $r = -.249$, $p = .015$; $r = -.277$, $p = .010$; $r = -.274$, $p = .010$). For fathers, crying was moderately to weakly correlated with parental sense of competence at T_2, T_3, and T_4 (respectively, $r = -.368$, $p = .001$; $r = -.269$, $p = .014$; $r = -.246$, $p = .026$). Differences in parental sense of competence scores, as influenced by perceived greater or lesser crying, were significant only for fathers at T_2 ($t(22.02) = 3.97$, $p = .001$). Mothers' parental sense of competence scores appeared not to be significantly influenced by differences of greater or lesser infant crying.

Concerns for Infant

Parents were asked to rate their concerns about their babies on a six-point scale, where 1 indicated great concerns and 6 indicated no concerns. Mothers rated their concerns for their infants during labour and delivery more highly than did fathers (respective means were 3.511 and 3.021). A weak relationship between labour and delivery concerns and early postpartum concerns was found, significant only for fathers (for mothers, $r = .157$, $p = .065$; for fathers, $r = .295$, $p = .002$). Several mothers commented on the second questionnaire that they were so overwhelmed by the pain and effort of labour that their concerns for their babies became secondary, which may partially explain this finding. Concerns about the babies during labour and delivery did not significantly influence parental sense of competence at T_2, and significant differences in parental sense of competence between parents with greater or lesser baby concerns during labour and delivery were not found.

During the early postpartum period, 46.8% of mothers and 64.9% of fathers reported greater general concerns for their infants, while 53.2% of mothers and 35.1% of fathers reported lesser general concerns. At one month of age of the babies, 20.7% of mothers and 19.8% of fathers reported greater general concerns for their infants, and 79.3% of mothers and 80.2% of fathers reported lesser general

concerns. At age three months of the babies, 17.0% of mothers and 14.3% of fathers reported greater general concerns for their infants, and 83.0% of mothers and 85.7% of fathers reported lesser general concerns.

For mothers, weak to moderate correlations between general baby concerns and parental sense of competence at T_2, T_3, and T_4 were found (respectively, $r = .244$, $p = .008$; $r = .424$, $p = .000$; $r = .455$, $p = .000$). For fathers, weak correlations were found (respectively, $r = .329$, $p = .001$; $r = .321$, $p = .001$; $r = ,251$, $p = .010$). Greater or lesser general levels of concern for the babies were significantly related to parental sense of competence scores for mothers at T_3 and T_4 (respectively, $t(85) = -2.09$, $p = .040$; $t(87) = -2.53$, $p = .013$). For fathers, parental sense of competence scores were influenced by greater or lesser general concerns for the babies at T_2 and T_3 (respectively, $t(92) = -3.15$, $p = .002$: $t(84) = -2.34$, $p = .021$).

Satisfaction with Infant Feeding

Regarding method of feeding, 85.3% of parents stated at T_1 the intention that the mothers would breastfeed. Almost all of these mothers initiated breastfeeding in the immediate postpartum period, with 69.3% continuing to breastfeed at one month age of the baby, and 54.5% still breastfeeding at three months of age.

Satisfaction with feeding rose steadily during the parents' first three months with their baby, with 81.3% reporting satisfaction with feeding following birth, 93.6% reporting satisfaction at one month of age of the babies, and 97.1% reporting satisfaction at three months of age. Moderate correlations for mothers between satisfaction with feeding and parental sense of competence scores were found (respectively: r = .362, p = .000; r = .466, p = .000; r = .478, p = .000). For fathers, weaker correlations were found at T_3 and T_4 (respectively, r = .277, p = .005; r = .201, p = .032). As the majority of mothers were breastfeeding, perhaps this reflected the importance of success in feeding as a predictor of parental sense of competence for such mothers.

Smoking

Smoking was not reliably measured in this study. Two main problems were encountered with these items. Although the smoking items were flagged on the questionnaires, to be answered by smokers only, a number of non-smokers provided inappropriate responses. For example, at the first measurement interval, parents were asked to state the amount that they smoked, and on subsequent measurement intervals, were asked to indicate, in relative terms, if their smoking had increased, decreased, or remained the same. A number of non-smokers apparently tried to indicate that their "non

smoking" had remained the same, when it was not intended that they answer the items. Secondly, the reliability of the smokers in the study (approximately 20% of the sample) was questioned, as it became apparent, when studying the frequency distributions, that on occasion the number of smokers rose between intervals. This was questionable because several parents who were smokers had dropped out of the study, and several more had indicated during the course of the study that they had stopped smoking completely. This meant that, at the very least, a number of parents who were smokers had not identified themselves as such on the first questionnaire, or that former smokers, who had declared themselves as non-smokers at T_1, had begun smoking again. Therefore, because the effort that would have been required in re-reading and re-coding questionnaires was unrealistic for the researcher, in light of the possible additional information to be gained, the items were dropped.

Regression Analysis

In all series of regressions conducted during data analysis, the stepwise method "forward" was used first, followed by repeating the regression using the forced entry method "enter"[1].

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[1]As discussed in the SPSSx users guide (1986), both of these methods require that variables pass both tolerance and minimum tolerance tests to enter and remain in the regression equation. "Tolerance" is defined as the proportion of a variables's variance not accounted for by

If a variable passes the tolerance criteria, the stepwise method allows it to enter the regression equation. All variables which meet minimum tolerance criteria are entered one at a time, in decreasing order of contribution to explained variance of the dependent variable. Statistics are calculated for each step, which permits assessment of the relative contribution of each variable.

This differs from the forced entry method, where statistics are calculated for the entire block, and all variables listed are entered into the equation, regardless of whether or not they meet minimum tolerance requirements. To facilitate greater explanation of the findings, both methods were used in this study.

Both listwise and pairwise treatments were applied to adjust for missing data during calculation of the correlation matrices used in the regressions (Cohen & Cohen, 1983). Results from the listwise regressions are reported in the regression tables, with differences observed in the pairwise regressions footnoted. The listwise correlation matrices are contained in Appendix M.

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other variables in the equation, that is, its unique variance. Minimum tolerance, of a variable not yet in the equation, is defined as the smallest tolerance any variable already in the equation would have if the given variable were included.

The results of each series of regressions are discussed using the general form of the linear regression model, which is:

$$\hat{Y} = a + b_1X_1 + b_2X_2 + \ldots + b_nX_n$$

where "$\hat{Y}$" represents the estimated value of the dependent variable Y, "a" represents a constant value in the equation (also the best estimate of Y when all independent variables are set to zero), "b_1" represents the coefficient of the first independent variable "X_1" entered in the equation, "b_2" represents the coefficient of the second independent variable "X_2" entered in the equation, and so on, until all independent variables are entered in the equation. In each series of regressions, the "best fit" equation for the model will be discussed in these terms. The standard slope interpretation of "b" is used, that is, that a change of one unit in the predictor results in a specified amount of change in the dependent variable.

Tables which summarize the regression results are included with each regression series discussion. Note that in all, the previously defined scale abbreviations are used (that is, PSOC, Baby, and Support). To avoid confusion, the letters "M" or "F" are used to refer to, respectively, mothers' and fathers' scale values. Additionally, numbers 1 through 4 are used to indicate the respective measurement times.

Mothers

In the first half of the regressions, mothers' parental sense of competence scores were regressed on the list of possible predictors previously discussed in this section (that is, perceived baby characteristics, social network support, and other selected variables). These results are reported in Tables 8 through 11, and the correlation matrices used in those regressions are contained in Appendix M.

At T_1, mothers' feelings of anxiety about parenthood entered on the first step, explaining 29.4% of the observed variance in sense of competence scores. This was followed by the entry of BabyM1 on the second step, which explained an additional 8.8% of observed variance. No other predictors at T_1 met the minimum entry requirements of the regression equation.

Therefore, the model for mothers at T_1 was:

PSOCM1 = 67.154 + 4.623*T_1 Parenting Anxiety - .638*BabyM1.

Using the standard interpretation of b as a slope, it was shown that an increase of one unit in reported parenting anxiety (remembering that this item was scored on a 1-to-6 scale, where 1 indicated extreme anxiety and 6 indicated a very relaxed approach, and was therefore scored in opposite direction to the PSOC score) resulted in a decrease of 4.6

Table 8

T_1 regression analysis - Mothers

Dependent variable = PSOCM1

Reg.	Stepwise predictors entered	b(stand.)	SE of b	r^2	intercept a
1	1 T_1 parenting anxiety	5.355 (.542)***	.875	.294	45.838
2	1 T_1 parenting anxiety	4.623 (.468)***	.848		
	2 BabyM1	-.638 (-.306)***	.179	.382	67.154
	Forced entry of predictors[1]				
	1 T_1 usual number hours of sleep	1.456 (.153)	.653		
	2 T_1 expected minutes crying spells	-.0116(-.0649)	.0201		
	3 T_1 parenting anxiety	4.295 (.435)***	.965		
	4 T_1 previous baby experience	.381 (.0617)	.536		
	5 SupportM1	.305 (.0985)	.283		
	6 T_1 pregnancy health problems	-.897 (-.0976)	.842		
	7 T_1 labor and delivery anxiety	.689 (.0911)	.738		
	8 BabyM1	-.613 (-.294)*	.239	.422	54.302

* $p < .05$
** $p < .01$
*** $p < .001$

Listwise n of cases = 92

[1] A similar forced entry regression, with the addition of spouses' PSOCF1 to the list of predictors, resulted in similar slopes and significance for all the previously entered variables, plus an additional slope for PSOCF1 of b(stand.)=-.00987(-.00971), r^2=.457.

units in parental sense of competence scores[3]. Similarly, an increase of 1 unit in perceived difficulty of the baby resulted in a decrease of 0.6 of a unit in parental sense of competence scores. The relative importance at T_1 of parenting anxiety and anticipated baby characteristics for mothers was evidenced.

At T_2, four predictors met minimum tolerance criteria and entered the regression equation. Mothers' feelings of anxiety about parenthood entered on the first step, explaining 39.7% of the observed variance in parental sense of competence. This was followed by mothers' previous PSOC scores from T_1 entering on the second step, explaining an additional 12.4% of observed variance. BabyM2 entered on the third step, explaining an additional 9.9% of observed variance, followed by T_2 satisfaction with feeding following on the fourth and last step, explaining an additional 2.8% of observed variance in mothers' parental sense of competence scores.

The model for mothers at T_2 was:

PSOCM2 = 44.786 + .747*T_2 Parenting Anxiety + .454*PSOCM1
- .734*BabyM2 + 1.322*T_2 Satisfaction Feeding

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[3]One unit of change of a predictor results in a specified amount of change observed in the dependent variable. It is acknowledged that although the word "resulted" is used in interpretation of the regression findings in this text, these are only predicted/expected values.

Table 9

T_2 regression analysis - Mothers

Dependent variable = PSOCM2

Req.		Stepwise predictors entered	b(stand.)	SE of b	r^2	intercept a
1	1	T_2 parenting anxiety	5.748 (.630)***	.773	.397	50.241
2	1	T_2 parenting anxiety	4.405 (.483)***	.751		
	2	PSOCM1	.430 (.382)***	.0926	.521	26.432
3	1	T_2 parenting anxiety	3.562 (.391)***	.698		
	2	PSOCM1	.438 (.390)***	.0830		
	3	BabyM2	-.710 (-.326)***	.154	.620	47.840
4	1	T_2 parenting anxiety	2.746 (.301)***	.747		
	2	PSOCM1	.454 (.404)***	.0806		
	3	BabyM2	-.734 (-.337)***	.150		
	4	T_2 satisfaction feeding	1.322 (.188)*	.517	.648	44.786
		Forced entry of predictors[1]				
	1	T_2 parenting anxiety	2.680 (.294)**	.838		
	2	SupportM2	.423 (.114)	.261		
	3	T_2 minutes crying spells	-.0182(-.0858)	.0180		
	4	T_2 difficulty of labor and delivery	-.183 (-.0249)	.593		
	5	T_1 pregnancy health problems	-1.506 (-.144)	.780		
	6	T_1 previous baby experience	.636 (.0926)	.515		
	7	PSOCM1	.442 (.393)***	.0841		
	8	T_2 satisfaction feeding	1.330 (.189)*	.544		
	9	T_2 general baby concerns	-.0304(-.00421)	.576		
	10	T_2 labor and delivery baby concerns	.542 (.0909)	.488		
	11	T_2 labor and delivery satisfaction	-.297 (-.0429)***	.568		
	12	BabyM2	-.701 (-.322)	.190	.680	42.099

* $p < .05$
** $p < .01$
*** $p < .001$

Listwise n of cases = 86

[1] A similar forced entry regression, with the addition of spouses' PSOCF2 to the list of predictors, resulted in similar slopes and significance for all the previously entered variables, plus an additional slope for PSOCF2 of b(stand.)=.0575(.0529), r^2=.684.

Using the standard interpretation of b as a slope, it was shown that an increase of reported parenting anxiety of 1 unit resulted in a decrease of 1.3 units in parental sense of competence scores. An increase of 1 unit in previously reported PSOCM1 scores resulted in an increase of 1.3 units in T_2 parental sense of competence scores. An increase in 1 unit of perceived difficulty of the baby resulted in a decrease of 0.7 unit in parental sense of competence scores. An increase of 1 unit in satisfaction with infant feeding resulted in an increase of 1.3 units in parental sense of competence scores. The importance of parenting anxiety, previous feelings of parental competence, and of two baby-related dimensions were evidenced for mothers at T_2.

At T_3, three predictors met minimum tolerance criteria and were permitted entry into the regression equation. Previous PSOCM2 entered on the first step, explaining 40.5% of the observed variance in mothers' parental sense of competence scores. This was followed by T_3 parenting anxiety on the second step, which explained an additional 10.0% of observed variance in parental sense of competence scores. BabyM3 entered the regression equation on the third and last step, and explained an additional 4.0% of observed variance in mothers' parental sense of competence scores.

The model for mothers at T_3 was:

PSOCM3 = 30.500 + .520*PSOCM2 + 3.454*T_3 Parenting Anxiety - .408*BabyM3

Table 10

T, regression analysis - Mothers

Dependent variable = PSOCM3

Reg.		Stepwise predictors entered	b(stand.)	SE of b	r^2	intercept a
1	1	PSOCM2	.688 (.636)***	.0927	.405	23.869
2	1	PSOCM2	.548 (.507)***	.0918		
	2	T_3 parenting anxiety	4.218 (.342)***	1.047	.505	14.530
3[1]	1	PSOCM2	.520 (.481)***	.0892		
	2	T_3 parenting anxiety	3.454 (.280)**	1.080		
	3	BabyM3	-.408 (-.214)*	.155	.545	30.500
		Forced entry of predictors[2]				
	1	T_3 parenting anxiety	2.597 (.211)*	1.145		
	2	T_1 pregnancy health problems	-.155 (-.0149)	.839		
	3	T_3 hrs uninterrupted sleep/night	.210 (.0300)	.595		
	4	T_1 previous baby experience	-.398 (-.0553)	.583		
	5	T_3 minutes crying spells	-.00393(-.0215)	.0220		
	6	SupportM3	.419 (.133)	.269		
	7	T_3 energy level	1.176 (.0901)	1.073		
	8	T_3 satisfaction feeding	1.333 (.158)	.880		
	9	PSOCM2	.480 (.444)***	.0929		
	10	T_3 general baby concerns	-.0415 (-.00410)	1.031		
	11	BabyM3	-.346 (-.181)***	.242	.601	21.034

* $p < .05$
** $p < .01$
*** $p < .001$

Listwise n of cases = 83

[1] When pairwise matrix was used, stepwise predictors entered as follows:

3	T_3 satisfaction feeding	r^2= .562,	b(stand.)=1.897(.223)
4	BabyM3	r^2= .584,	b(stand.)=-.323(-.172)
5	SupportM3	r^2= .607,	b(stand.)= .502(.153)

[2] A similar forced entry regression, with the addition of spouses' PSOCF3 to the list of predictors, resulted in similar slopes and significance for all the previously entered variables, plus an additional slope for PSOCF3 of b(stand.)=.0575(.0529), r^2=.684.

Using the standard interpretation of b as a slope, it was shown that an increase of 1 unit in previous PSOCM2 scores resulted in an increase of 0.5 unit in mothers' T_3 parental sense of competence scores. An increase of 1 unit in mothers' T_3 reported parenting anxiety resulted in an increase of 3.5 units in parental sense of competence scores. An increase of 1 unit of difficulty in T_3 perceived baby characteristics resulted in a decrease of 0.4 unit in T_3 parental sense of competence scores. Mothers' reported parenting anxiety and perceived characteristics of the babies continued to be important predictors of parental sense of competence at T_3.

For mothers at T_4, three predictors entered the regression equation. On the first step, previous PSOCM3 explained 69.3% of the variance observed in T_4 parental sense of competence scores. This was followed by T_4 parenting anxiety on the second step, which explained an additional 5.7% of observed variance. T_4 energy level entered on the third and last step, explaining an additional 2.0% of observed variance in mothers' parental sense of competence scores.

For mothers, the model at T_4 was:

PSOCM4 = 12.292 + .650*PSOCM3 + 2.821*T_4 Parenting Anxiety + 1.647*T_4 Energy Level

Using the standard interpretation of b as a slope, it was shown that an increase of 1 unit in mothers' previous PSOCM3

Table 11

T_4 regression analysis - Mothers

Dependent variable = PSOCM4

Reg.		Stepwise predictors entered	b(stand.)	SE of b	r^2	intercept a
1	1	PSOCM3	.796 (.832)***	.0596	.693	19.964
2[1]	1	PSOCM3	.656 (.687)***	.0632		
	2	T_4 parenting anxiety	3.142 (.281)***	.740	.750	14.770
3	1	PSOCM3	.650 (.680)***	.0612		
	2	T_4 parenting anxiety	2.821 (.252)***	.726		
	3	T_4 energy level	1.647 (.143)*	.646	.770	12.292
		Forced entry of predictors[2]				
	1	T_4 parenting anxiety	2.943 (.263)***	.845		
	2	T_1 pregnancy health problems	-.0428(-.00394)	.657		
	3	T_1 previous baby experience	-.288 (-.0397)	.438		
	4	SupportM4	.174 (.0558)	.185		
	5	T_4 energy level	1.351 (.117)	.681		
	6	T_4 minutes crying spells	-.0241(-.0760)	.0219		
	7	T_4 satisfaction feeding	1.258 (.0993)	.834		
	8	T_4 hrs uninterrupted sleep/night	-.394 (-.0737)	.332		
	9	T_4 general baby concerns	.429 (.0472)	.577		
	10	BabyM4	.124 (.0462)	.191		
	11	PSOCM3	.585 (.612)***	.0690	.792	7.119

* $p < .05$
** $p < .01$
*** $p < .001$

Listwise n of cases = 81

[1] When pairwise matrix was used, stepwise predictors entered as follows:

2	T_4 general baby concerns	r^2= .751,	b(stand.)= 2.164(.244)
3	T_4 energy level	r^2= .767,	b(stand.)= 1.464(.128)
4	T_4 parenting anxiety	r^2= .782,	b(stand.)= 1.559(.162)

[2] A similar forced entry regression, with the addition of spouses' PSOCF4 to the list of predictors, resulted in similar slopes and significance for all the previously entered variables, plus an additional slope for PSOCF4 of b(stand.)=.126(.123), r^2=.809.

scores resulted in an increase of 0.7 unit in T_4 parental sense of competence scores. An increase of 1 unit in mothers' T_4 parenting anxiety resulted in a decrease of 2.8 units in T_4 parental sense of competence scores. An increase of 1 unit in mothers' T_4 reported energy levels resulted in an increase of 1.6 units in parental sense of competence scores. Previous sense of competence levels, parenting anxiety, and reported energy levels were important predictors of sense of competence scores for mothers at T_4. Perhaps the accumulated fatigue experienced by mothers during the last trimester of pregnancy and the first three months with the babies partially explained the entry of mothers' reported energy levels as a significant predictor of parental sense of competence at the last measurement.

Therefore, for mothers in general, feelings of anxiety about being parents, previous levels of parental sense of competence, and baby perceptions or concerns, were the three primary predictors of mothers' parental sense of competence across the four measurement times. This possibly reflected the importance of specific or non-specific worries experienced by the mothers, perceived effectiveness in mother-infant interactions, and the influence of ongoing experience and perception of self as "parent", as predictors of mothers' parental sense of competence.

Fathers

In the second half of the regressions, fathers' parental sense of competence scores were regressed on the previously described possible predictors. These results are reported in Tables 12 through 15, and the correlation matrices used in those regressions are contained in Appendix M.

At T_1, fathers' feelings of anxiety about parenthood entered on the first step, explaining 27.7% of the observed variance in sense of competence scores. This was followed by the entry of SupportF1 on the second step, which explained an additional 6.0% of observed variance. No other predictors at T_1 met the minimum entry requirements for the stepwise regression equation.

The model for fathers at T_1 was:

$$PSOCF1 = 35.068 + 4.786*T_1 \text{ Parenting Anxiety} + .890*\text{SupportF1}$$

Using the standard interpretation of b as a slope, it was shown that an increase of reported parenting anxiety of 1 unit in fathers (remembering that the parenting anxiety items and PSOC scale were scored in opposite direction of one another) resulted in a decrease of 4.8 units in parental sense of competence scores. An increase of 1 unit in social network support resulted in an increase of 0.9 unit in parental sense of competence scores. The importance of parenting anxiety and social network support were evidenced

Table 12

T_1 regression analysis - Fathers

Dependent variable = PSOCF1

Reg.		Stepwise predictors entered	b(stand.)	SE of b	r^2	intercept a
1	1	T_1 parenting anxiety	5.335 (.526)	.931	.277	47.111
2	1	T_1 parenting anxiety	4.786 (.472)	.918		
	2	SupportF1	.890 (.252)	.320	.337	35.068
		Forced entry of predictors[1]				
	1	T_1 usual number hours of sleep	.214 (.0247)	.813		
	2	T_1 expected minutes crying spells	-.00296(-.0222)	.0143		
	3	SupportF1	.910 (.257)**	.339		
	4	T_1 labor and delivery anxiety	-.0114 (-.00143)	.946		
	5	T_1 pregnancy health problems	-.245 (-.0270)	.872		
	6	T_1 previous baby experience	.462 (-.0637)	.704		
	7	BabyF1	-.117 (-.0504)	.262		
	8	T_1 parenting anxiety	4.412 (.435)**	1.298	.346	38.285

* $p < .05$
** $p < .01$
*** $p < .001$

Listwise n of cases = 88

[1] A similar forced entry regression, with the addition of spouses' PSOCM1 to the list of predictors, resulted in similar slopes and significance for all the previously entered variables, plus an additional slope for PSOCM1 of b(stand.)=.0723(.0730), r^2=.350.

for fathers at T_1. Mothers and fathers apparently shared parenting anxiety as their primary predictor of parental sense of competence at this measurement time, but differed on the second predictor of the regression equation.

At T_2, again two predictors met minimum tolerance criteria and entered the stepwise regression equation. Previous PSOCF1 entered on the first step, explaining 46.2% of observed variance in fathers' parental sense of competence. This was followed by T_2 parenting anxiety, which explained an additional 9.8% of observed variance.

The regression model for fathers at T_2 was:

PSOCF2 = 23.633 + .482*PSOCF1 + 3.608*T_2 Parenting Anxiety

Using the standard interpretation of b as a slope, it was shown that an increase of 1 unit in previous PSOCF1 scores resulted an increase of 0.5 unit in T_2 parental sense of competence scores. Similarly, an increase of parenting anxiety of 1 unit resulted in a decrease of 3.6 units in T_2 parental sense of competence scores. Therefore, the number of predictors (i.e. two predictors for fathers and four predictors for mothers) and order of predictors of parental sense of competence for mothers and fathers differed at T_2, and for fathers, only previous parental sense of competence levels and parenting anxiety were major predictors.

At T_3, three predictors met minimum tolerance criteria and were permitted entry into the regression equation. Previous PSOCF2 entered on the first step, and explained

Table 13

T, regression analysis - Fathers

Dependent variable = PSOCF2

Reg.		Stepwise predictors entered	b(stand.)	SE of b	r^2	intercept a
1	1	PSOCF1	.682 (.680)***	.086	.462	25.524
2	1	PSOCF1	.482 (.480)	.0931		
	2	T_2 parenting anxiety	3.608 (.371)	.901	.560	23.633
		Forced entry of predictors[1]				
	1	T_2 parenting anxiety	2.405 (.247)*	1.143		
	2	T_2 difficulty labor and delivery	-.823 (-.113)	.789		
	3	SupportF2	-.049 (-.0126)	.330		
	4	T_2 satisfaction feeding	.675 (.0842)	.718		
	5	T_1 previous baby experience	.168 (.0206)	.729		
	6	T_1 pregnancy health problems	-.688 (-.0691)	.860		
	7	T_2 labor and delivery baby concerns	-.194 (-.0306)	.557		
	8	T_2 minutes crying spells	-.00186(-.00558)	.036		
	9	T_2 general baby concerns	.731 (.106)	.682		
	10	T_2 satisfaction labor and delivery	.217 (.0281)	.791		
	11	BabyF2	-.389 (-.149)	.266		
	12	PSOCF1	.482 (.480)***	.105	.600	37.321

* $p < .05$
** $p < .01$
*** $p < .001$

Listwise n of cases = 75

[1] A similar forced entry regression, with the addition of spouses' PSOCM2 to the list of predictors, resulted in similar slopes and significance for all the previously entered variables, plus an additional slope for PSOCM2 of b(stand.)=.176(.177), r^2=.626.

Table 14

T, regression analysis - Fathers

Dependent variable = PSOCF3

Reg.		Stepwise predictors entered	b(stand.)	SE of b	r^2	intercept a
1	1	PSOCF2	.763 (.727)***	.0827	.528	19.576
2	1	PSOCF2	.523 (.498)***	.0903		
	2	T_3 parenting anxiety	5.077 (.394)***	1.107	.631	13.519
3[1]	1	PSOCF2	.547 (.521)***	.0856		
	2	T_3 parenting anxiety	4.185 (.325)***	1.083		
	3	SupportF3	.814 (.218)**	.256	.675	2.473
		Forced entry of predictors[2]				
	1	T_3 parenting anxiety	3.182 (.247)*	1.206		
	2	T_3 energy level	-.123 (-.00927)	.909		
	3	T_1 pregnancy health problems	1.150 (.121)	.655		
	4	T_3 hrs uninterrupted sleep/night	-.254 (-.0406)	.453		
	5	T_1 previous baby experience	.939 (.116)	.620		
	6	SupportF3	.805 (.216)**	.264		
	7	T_3 satisfaction feeding	.292 (.0211)	1.021		
	8	T_3 minutes crying spells	-.00476(-.0262)	.016		
	9	T_3 general baby concerns	.229 (.0240)	.751		
	10	PSOCF2	.508 (.484)***	.0905		
	11	BabyF3	-.247 (-.114)	.205	.712	9.865

* $p < .05$
** $p < .01$
*** $p < .001$

Listwise n of cases = 78

[1] When pairwise matrix was used, T_1 pregnancy health problems entered on a fourth step (r^2= .696, b(stand.)=1.291(.130)).

[2] A similar forced entry regression, with the addition of spouses' PSOCM3 to the list of predictors, resulted in similar slopes and significance for all the previously entered variables, plus an additional slope for PSOCM3 of b(stand.)=.0692(.0679), r^2=.715.

52.8% of the observed variance in fathers' parental sense of competence scores. This was followed by T_3 parenting anxiety on the second step, which explained an additional 10.3% of observed variance. SupportF3 entered on the third and last step, and explained an additional 4.4% of observed variance in fathers' parental sense of competence scores. The model for fathers at T_3 was:

$$PSOCF3 = 2.473 + .547*PSOCF2 + 4.185*T_3 \text{ Parenting Anxiety} + .814*SupportF3$$

Using the standard interpretation of b as a slope, it was shown that an increase of 1 unit in fathers' previous parental sense of competence scores resulted in an increase of 0.5 unit in T_3 parental sense of competence scores. An increase of 1 unit of anxiety at T_3 resulted in a decrease of 4.2 units in fathers' parental sense of competence scores. An increase of 1 unit in social network support scores resulted in an increase of 0.8 unit in fathers' parental sense of competence scores. The difference between mothers' and fathers' predictors of parental sense of competence at T_3 was that on the third step, BabyM3 entered for mothers, and SupportF3 entered for fathers. The first two predictors at T_3 for both mothers and fathers were the same, namely previous parental sense of competence scores, and reported parenting anxiety.

For fathers at T_4, two predictors entered the stepwise regression equation. PSOCF3 entered on the first step, and

Table 15

T, regression analysis - Fathers

Dependent variable = PSOCF4

Reg.	Stepwise predictors entered	b(stand.)	SE of b	r^2	intercept a
1	1 PSOCF3	.829 (.823)***	.0671	.677	14.995
2	1 PSOCF3	.695 (.690)***	.0723		
	2 T_4 parenting anxiety	3.187 (.260)***	.879	.727	9.725
	Forced entry of predictors[1]				
	1 T_4 parenting anxiety	3.171 (.259)**	1.047		
	2 T_4 energy level	.534 (.0362)	1.194		
	3 T_4 minutes crying spells	-.00379(-.00964)	.385		
	4 T_1 previous baby experience	.225 (.0283)	.604		
	5 T_1 pregnancy health problems	-.541 (-.0526)	.703		
	6 T_4 satisfaction feeding	-.0424 (-.00397)	.821		
	7 SupportF4	.276 (.0665)	.298		
	8 T_4 general baby concerns	-.250 (-.0273)	.677		
	9 T_4 hrs uninterrupted sleep/night	.125 (.0134)	.754		
	10 PSOCF3	.664 (.658)***	.0928		
	11 BabyF4	-.0984 (-.0356)	.281	.738	10.466

* $p < .05$
** $p < .01$
*** $p < .001$

Listwise n of cases = 75

[1] A similar forced entry regression, with the addition of spouses' PSOCM4 to the list of predictors, resulted in similar slopes and significance for all the previously entered variables, plus an additional slope for PSOCM4 of b(stand.)=.155(.155), r^2=.758.

explained 67.7% of the observed variance in fathers' sense of competence scores. This was followed by the entry of T_4 parenting anxiety on the second and last step, which explained an additional 5.0% of observed variance in fathers' T_4 parental sense of competence scores. For fathers, the regression model at T_4 was:

PSOCF4 = 9.725 +.695*PSOCF3 + 3.187*T_4 Parenting Anxiety

Using the standard interpretation of b as a slope, it was shown that an increase of 1 unit in previous PSOCF3 scores resulted in an increase of 0.7 in fathers' T_4 parental sense of competence scores. An increase of parenting anxiety of 1 unit resulted in a decrease of 3.2 units in fathers' parental sense of competence scores. For fathers in general, as also evidenced at T_2 and T_3, previous parental sense of competence scores and reported parental anxiety were consistently the first two predictors of parental sense of competence scores. Compared with mothers at T_4, mothers and fathers shared the same first two predictors of parental sense of competence.

Conclusions

In general, previous levels of parental sense of competence and reported parenting anxiety were the major predictors of parental sense of competence for both mothers and fathers. However, characteristics of and concerns for the babies appeared as the third most significant predictor

for mothers, whereas social network support emerged as the third most significant predictor for fathers.

This suggested that centrality of the infants accounted for the presence of baby characteristics or baby concerns in the regression models illustrated for mothers, and that parental sense of competence for mothers was more significantly determined by factors immediate to the situation of becoming a parent. The models differed for fathers, as the effects of social network support on fathers' parental sense of competence evidently superseded the effects of perceived baby characteristics, and suggested that, for fathers, factors not directly involved in parenting do in fact influence parental sense of competence.

To examine this difference, correlations between social network support and satisfaction with employment at all four measurement times were examined. For mothers, these correlations were weak and insignificant; however, for fathers, the correlations ranged from moderate to weak, and all were significant. Respectively, for mothers: $r = .104$, $p = .299$; $r = .103$, $p = .318$; $r = .199$, $p = .066$; $r = .117$, $p = .282$. Respectively, for fathers: $r = .411$, $p = .000$; $r = .298$, $p = .004$; $r = .264$, $p = .015$; $r = .323$, $p = .003$. This suggested that, for fathers, satisfaction with employment might indirectly predict parental sense of competence, and suggested an explanation for the relative importance of and sources of influence of social network

support for fathers. This was congruent with Gibaud-Wallston's suggestion that self-esteem theory was useful in explaining and understanding transition to parenthood as a time of stress (Gibaud-Wallston, 1977), if the premise that satisfaction with employment was associated with levels of self-esteem, was accepted.

Lastly, these findings provided additional evidence for the suggestion that mothers and fathers experience the transition to parenthood differently (Gibaud-Wallston, 1977; Entwisle & Doering, 1981; Lansdowne, 1984).

CHAPTER V

SCALE ANALYSIS

Introduction

It became apparent, during reading and coding of the questionnaires, and during subsequent data analysis, that certain inconsistencies were observed in all three of the scales used in this study. The intent of this chapter is not to provide a detailed analysis of these, which is in itself another study, but rather to briefly describe the nature of these concerns, and the effect they may have had on the findings. The main points of this discussion centre on the issues of reliability and construct validity.

Parenting Sense of Competence Scale

Although Gibaud-Wallston (1977) provided evidence of internal consistency, reliability, convergent validity, and discriminant validity during testing of the scale, several concerns arose during its use in this study. They are outlined as follows. Tables 16 and 17 report the independent and repeated measures estimates of reliability, using the alpha model.

Reliability

Most of the items in the scale contained complex statements, and a number of parents stated they experienced difficulty understanding some of the items. A number of

Table 16

Scale reliabilities - alpha model

Scale name & interval		Mothers α	Fathers α
Parental Sense of Competence			
Complete scale	1	.7357	.7536
	2	.8051	.8205
	3	.8660	.8653
	4	.8793	.8665
Subscales:			
Skill/Knowledge	1	.6422	.6502
	2	.7772	.7818
	3	.8069	.7728
	4	.7971	.7963
Value/Comfort	1	.6902	.6833
	2	.7328	.7670
	3	.7840	.8166
	4	.8394	.8269
Baby Characteristics			
	1	.6347	.4761
	2	.6575	.5373
	3	.6962	.5532
	4	.5326	.4870
Social Support	1	.6687	.6081
	2	.6585	.6900
	3	.7946	.6960
	4	.8129	.6901

Table 17

Scale reliabilities - repeated measures across T_1 to T_4

Scale name	Mothers α	Fathers α
Parental Sense of Competence	.8818	.8809
Skill/Knowledge subscale	.8440	.8772
Value/comfort subscale	.8438	.8710
Baby Characteristics	.7536	.6648
Social Support	.9083	.9064

parents evidenced confusion with items in which two ideas were expressed, and rather than indicate their agreement or disagreement with these items as a whole, either indicated a separate score for each part, or omitted the item. The best example of this was the item "Being a parent is manageable, and any problems are easily solved.", although three other items contained in the scale occasionally were answered in this manner as well.

During reliability analysis of the T_1 scores, it was discovered that the inter-item correlations for the complete PSOC scale were unexpectedly low, typically less than r = .300. Only a few inter-item correlations exceeded r = .400 in mothers' responses, with fathers' inter-item correlations tending to be lower. Both subscale inter-item correlations were as low or lower than those observed in the complete scale. This pattern remained generally the same across the four measurement times, with an occasional correlation reaching or exceeding r = .600.

This suggested that rather than measuring a single construct, the complete scale and subscales measured several constructs. While reviewing the article in which the original job competency scale was described, adapted by Gibaud-Wallston to form the PSOC, it was discovered that the original researchers had identified four factors in the job competency scale (Wagner & Morse, 1975). Gibaud-Wallston's a priori assignment of items comprising the PSOC to the

Skill/Knowledge subscale or the Value/Comfort subscale did not approximate or address any of the identified four factors, as they would have applied to parenting.

Further scale reliability analysis resulted in alpha values for the total PSOC scale ranging from .7357 to .8793, with subscale alpha values slightly lower. These alpha values were estimates of scale homogeneity, that is, the internal consistency of items comprising the scale, and are regarded as the lower bound of scale reliability estimates (Carmines & Zeller, 1979; Entwisle & Doering, 1981). Alpha values do not estimate well the measurement error of the scale, and reflect instead the consistency of item direction within the scale. Therefore, it is possible to have two items, measuring different constructs, achieve high alpha values, simply because the direction of their measurement is the same. Such may have been the case in this scale.

Scale reliabilities gradually increased across the four measurement times in the complete scale and subscales. In light of the preceding statements, it is difficult to assess how much of this increase in alpha reliability estimates was attributable to reasons apart from the effect of repeated measurement.

Construct Validity

Because the researcher had found the term "confidence" used in some of the literature reviewed, and had an interest

in comparing Gibaud-Wallston's "sense of competence" definition with the commonly held meaning of confidence, as it applied to parenting, two items asking parents to rate their confidence were included in the questionnaires. One of these items immediately followed the PSOC scale, and asked parents to rate their confidence on a 1-to-10 scale, where 1 was low and 10 was high. The correlations of these items with the PSOC scores ranged from $r = .569$ to $r = .750$ across the four measurement times, and all were significant ($p = .000$). The second confidence item, imbedded in the additional questions at the end of the second, third, and fourth questionnaires, asked parents to rate their confidence on a scale of 1-to-6, where 1 indicated a low rating and 6 indicated a high rating. The correlations for these items with the PSOC scores ranged from $r = .484$ to $r = .574$, and all were significant ($p = .000$).

This provided evidence that the PSOC scale was a moderate measure of self-reported feelings of confidence in parents, but provided additional evidence that the scale likely measured constructs other than confidence as well.

Baby Characteristics Scale

Reliability

A number of parents experienced difficulty with one set of five questions in the Baby scale. These questions were presented in table form, and parents were asked to indicate

their responses to the items with a check mark. A number of parents, particularly fathers, omitted the items completely. Of those that did answer the items, in addition to placing their checkmarks halfway between intervals, which forced the researcher to make an arbitrary rule concerning the values assigned to these items, many parents appeared to assume that the structure of the items was parallel. It seemed that many parents selected the same response to all five items, when in reality, two of the items were reversed in direction, and if fully read, would likely not have been answered in that manner. This occurrence was more frequently noted in fathers' questionnaires.

Alpha values for the Baby scale ranged from .5326 to .6962 for mothers, and from .4761 to .5532 for fathers. The error introduced by five of the sixteen items, as just discussed, likely was influential. The inter-item correlations observed in this scale were typically below r = .300, which therefore also brought into question their internal consistency.

The repeated measures reliability estimate of the Baby scale was somewhat higher than anticipated, in light of the concerns just outlined. However, as a measure of internal consistency, or perhaps in this case, it reflected stability of these characteristics across the four measurement intervals. This was somewhat surprising as well, as infant characteristics are known to be unstable during early

infancy. Therefore, the Baby scale may not have reflected these changes, or did not measure the constructs which reflect these changes.

Construct Validity

The underlying assumption of this scale was that higher levels of infant fussing resulted in increased difficulty for parents in caring for their infants. This seemed congruent with findings reported in the parenting literature. However, the assumption that activity level was equivalent to or an indicator of fussing, which was also evidenced in the scale, did not necessarily hold. For example, infants who are active during dressing or diaper changing are not always seen as difficult by their parents. Similarly, young babies who do not sleep through the night, and babies known to have allergies, are not necessarily classified as difficult by their parents, although they may experience episodes of fussiness. Although the basis upon which this scale was designed, which has been previously discussed, appeared valid, several items within the scale may not have reflected it.

To evaluate the construct validity of this scale, parents were asked to directly rate the ease or difficulty they experienced in caring for their infants on a ten-point scale. This item was scored in reverse direction compared to the scoring used in the Baby scale, and immediately

followed it. Correlations for mothers between the Baby scale and this item ranged from r = -.362 to r = -.591, and for fathers, ranged from r = -.407 to r = -.595 (for all, p = .000) However, because these correlations were only moderate in strength, it seemed likely that other dimensions of infant behavior which had meaning for parents in terms of ease or difficulty in baby care were not measured by the scale. It was also possible that other factors, apart from baby characteristics, played a role in determining overall ease or difficulty of baby care.

Social Network Support Scale

Reliability

This short scale contained five items, one of which was scored in reverse direction. It was presented in table form, with the possible responses listed across the top. As discussed in the Baby scale, it appeared that the reversal of the one item was not picked up by all parents, and there was a tendency to score all five items in the same manner by some parents who did not carefully read the questions.

Alpha values for the Support scale ranged from .6585 to .8129 for mothers, and from .6081 to .6960 for fathers. Because the scale contained only five items, the error introduced by incorrect responses to the reversed item was potentially quite large. The inter-item correlations of this scale were higher than those of the other two scales,

but inter-item correlations still tended to range between r = .200 and r = .400. However, since the items making up the scale did reflect different aspects of social support as identified in the social support literature, this was not unexpected. The repeated measures reliability estimate was high, indicating stability of the parents' social support network over time. However, once again, the fact that most parents had reported fairly high social support from the beginning of the study, and that there was not a great amount of variance in this measure, influenced interpretation of this value.

Construct Validity

One of the reasons this scale had been selected for use in the study, in addition to its advantage of being brief, was that each of its items addressed a somewhat different dimension of social network support, as reported in the social support literature. Rather than the Support scale reflecting one central construct, it tapped several, and although these constructs together reflected overall social network support, aspects of them differed. Because of this, it was perhaps incorrect to think of it as a scale in the true sense.

Parents were asked to rate their satisfaction with overall supportiveness of family, friends, and neighbours, in a separate item which immediately followed the Support

scale. This item was scored using a ten-point scale, in a direction parallel to that of the Support scale. Pearson correlations of this item with the Support scale ranged from r = .664 to r = .749 for mothers, and from r = .511 to r = .609 for fathers (for all, p = .000). Therefore, the Support scale approached providing a reasonable estimate of satisfaction with social support for mothers. For fathers, it appeared that some aspects which were important in estimating social support may not have been covered by the scale items, such as the influence of satisfaction with employment.

CHAPTER VI

SUMMARY AND DISCUSSION

Introduction

There are few events that hold as much impact for couples as the birth of a first child. The change from dyad to triad introduces a degree of permanence and responsibility that, before that point, was unknown to the couple. Even for couples who pursue specific preparation for parenthood, whether in the form of self-study or group instruction, and who consider themselves prepared, the reality of the transition from couple to family cannot be fully anticipated. It is typically a time during which support and guidance are sought.

The event of becoming a parent is dynamic, as the relationship between parents and infant evolves over time. It is also open to much external influence. Nurses are in a unique position to provide needed information and assistance, by virtue of their early contact with new families in hospital and in the community, and their professional commitment to the promotion of family health in the community.

It is through increased understanding of the processes which underlie transition to parenthood that nurses, and others, place themselves in a position to be truly effective as facilitators of healthy early family development. With knowledge gained from experience, expanded by insight gained

through research, nurses, and others, are better able to design and implement programs which support new families. In this study, the goal was to provide further understanding concerning parental sense of competence, in the hope that this knowledge might contribute to increased understanding of parents in the process of transition into parenthood.

In Chapter 6, a summary of the results is presented in real terms. Then, discussion of the findings is presented. This is followed by a comparison of the findings of this study with those of Gibaud-Wallston (1977). Implications for nursing are discussed. Lastly, recommendations for future study are suggested.

Summary of Results

The results from this study indicated that parental sense of competence steadily increased across the four measurement times for mothers and fathers, with the lowest levels occurring prior to the babies' births. The patterns of change were similar for mothers and fathers. Skill and knowledge dimensions of sense of competence evidenced a similar pattern of change, but a different pattern of change was observed in valuing and comfort dimensions. For these, instead of a steady increase, a decrease in level was noted at the 1 month measure. This was later suggested to be associated with comparative difficulty of the baby at that

point in time, influencing the parents' degree of comfort with the parenting role.

Difficult infant characteristics were associated with low parental sense of competence. This effect was more pronounced in mothers, with a highly significant difference noted in levels of parental sense of competence between mothers who reported their infants as difficult, and those who reported their infants as easy to care for. Most parents expected that their baby would be more difficult to care for than they later experienced.

Low social support was generally associated with low parental sense of competence. However, at the early postpartum measure, the influence of social support was negligible, likely due to the parents' transfer of focus, attributable to apparent engrossment with their babies.

For both mothers and fathers, the two most significant predictors of parental sense of competence were previous levels of parental sense of competence, and feelings of anxiety concerning the parenting role. These two predictors explained by far the greatest amounts of observed variance in parental sense of competence.

Characteristics of the babies were the third most significant predictor of mothers' parental sense of competence. For mothers, the effects of social support did not significantly influence parental sense of competence, when compared with other possible predictors studied.

However, for fathers, social support was the third most significant predictor of parental sense of competence, and characteristics of the babies did not significantly influence parental sense of competence, when compared with other possible predictors studied.

Discussion

Two of the three general conclusions outlined in the Determinants of parenting model (Belsky, 1984) were clearly supported by the findings from this study. Firstly, parental sense of competence was multiply determined, as illustrated by effects of several variables included in the study. In this respect, an additional observation made was that other determinants, or predictors, of parental sense of competence remain to be identified, as the amount of variance observed in parental sense of competence was not fully explained by the variables in the study. Secondly, characteristics of the parent, of the infant, and of the social context were not equally influential in predicting parental sense of competence. This was illustrated by the differences in major predictors for mothers and fathers, and the differences in their relative explanatory contributions.

Both of these conclusions, and the findings reported, supported the belief that the transition to parenthood is a dynamic process. Elaboration provided by Belsky (1984) of the Determinants of parenting model, and other research,

were used to further explore some of the possible meanings underlying the findings from the study.

The "goodness of fit" model indicated that adaptive developmental outcomes occur when physical and behavioral characteristics of individuals are appropriate to the demands of the physical and social contexts within which they are developing (Thomas & Chess, 1977; Lerner & Lerner, 1983). The idea of "goodness of fit" was reflected in writings of other researchers, and therefore became a theme for this discussion. A second principle, that of "violated expectations", also appeared to be a common thread, and was addressed (Belsky, 1984; Belsky, 1985).

Goodness of Fit Between Expected and Experienced Parenting

Expectations of the experience of role transition to parenthood have been shown to be a strong determinant of perception of the transition to parenthood experience (Wylie, 1979). Parents who have higher or positive expectations toward the parental role, and who feel optimistic about becoming parents, are more likely to have positive perceptions of the experience of becoming parents. It is suggested that a "self-fulfilling prophecy", or an attitudinal component of anticipatory socialization, may be involved. It has also been shown that prenatal expectations of knowledgeable parents generally matched their postnatally reported experiences, as indicated by a measure of "violated

expectations", derived from the discrepancy observed between prenatal parental expectations and postnatal reports (Belsky, 1985).

As all parents in this study sought out and attended a prenatal class preparation program, the decision to take strategic actions in preparation for labour, delivery, and parenthood were evidenced. Additionally, an opportunity to gain information, by virtue of exposure to the program content, occurred. The parents followed in the study generally approached new parenthood with a positive orientation, as evidenced by their positive initial PSOC scores. The gradual increase in these scores perhaps reflected the "self-fulfilling prophecy" of positively anticipated parenthood. The acquisition of knowledge, gained through prenatal class instruction, might thereby support realistic anticipation of and preparation for new parenthood.

Goodness of Fit Between Perceived Baby Characteristics and Parenting

The physical demands experienced by parents in caring for infants have been identified as one of the major changes, and source of problems, during the transition to parenthood (Belsky, Ward, & Rovine, 1986). As reported earlier, the parents studied generally expected their babies to be more difficult than was actually later experienced.

The fact that these parents did not, in general, have unrealistic expectations concerning their babies' behaviors can be viewed as a strength, as long as these expectations did not reach the point of becoming negative "self-fulfilling prophecies". Having anticipated some difficult experiences with their babies, these parents would not have been as surprised by the occurrence of difficult behaviors, and therefore, would not have been as likely to experience the same degree of frustration or helplessness as compared to that experienced by unprepared parents. Therefore, being aware of the possibilities for difficulties and stresses associated with baby care, and having some knowledge of steps to take to deal with them, as are frequently discussed in prenatal classes, could effectively support the development of a beginning sense of competence in parents. This beginning sense might then subsequently develop, as small successes were experienced, into a more lasting and internalized sense of parental competence. In effect, a positive "self-fulfilling prophecy" regarding effectiveness in parenting, self-evaluated by parents by perceived effectiveness in baby care, might then be fostered.

It is well established that as young infants develop, their irritable crying tends to decrease. The fact that the home environment provided to these babies by their parents supported this change may also reflect upon their actual performance competency as parents, in terms of responding

sensitively and appropriately to their infants' cues. Younger, less mature, less knowledgeable parents, with fewer personal and social resources, would not have been in the same position to provide growth-promoting parenting, although such parents may benefit from interventions designed to enhance parent-infant interaction (Widmayer & Field, 1980; Blank, 1985). Therefore, this occurrence may not have been entirely an artifact of this study.

Goodness of Fit Between Social Support and Parenting

It has been suggested that the most beneficial relationship between social support and parenting occurs when support desired by parents matches support received (Belsky, 1984). It was not surprising that, as occurred in this study, parental sense of competence was positively associated with social support, but it was also the case that either a deficit or an excess of available support resulted in less than an ideal situation for parents. It was in this regard that parents' anecdotal questionnaire comments, in addition to their scale and item scores, were most revealing. It was clear that both extremes of lack or excess of support were sources of stress for new parents. The absence of significant others, and the presence of over-bearing, interfering relatives, were both described in negative, frequently emotionally-laden terms. Therefore, the concepts of "goodness of fit" and violated expectations

had clear meaning for parents in terms of satisfaction with social network support.

As an aside, these two concepts are not new to sociological theory. Reference to both concepts pre-dates the work of researchers cited in this discussion. It appeared that the theory-development attempts outlined in this discussion, located in the parenting literature, were not integrated with similar work which occurred in sociology. The reader is therefore referred to another source (Berger, Conner, & Fisek, 1974).

Study Comparisons

The findings in this study were generally congruent with those reported by Gibaud-Wallston (1977) in that sample of parents studied in Nashville, Tennessee in 1976. Although different analytic approaches were used in the two studies, comparisons can still be made. Gibaud-Wallston found that the amount of social support perceived by fathers was a major determinant of their valuing parenthood and comfort in the paternal role. Mothers who perceived their babies as difficult reported significantly lower parental sense of competence than those with easy babies. Mothers with difficult babies and low social support felt significantly less competent that all other mothers in the study.

However, differences in scale analysis results in the two studies were shown. Gibaud-Wallston reported initial evidence for internal consistency, reliability, and convergent and divergent (construct) validity of the scale and its subscales. In this study evidence of internal consistency was reported, but reliability and construct validity were questioned. Gibaud-Wallston's scale analysis was more rigorous than that done in this study, but this sample was double the size of Gibaud-Wallston's sample, and therefore was likely to provide more precise estimates of reliability and validity.

Implications for Nursing Practice

Three suggestions for nursing practice in areas where new parents and their infants are the focus, arising from the findings of the study, are outlined.

Firstly, it was evidenced that preceding levels of parental sense of competence largely and directly influenced subsequent levels. This suggests that early intervention which assists parents to positively perceive their infants, and their state of new parenthood, may be beneficial, due to the likelihood of parents continuing to experience new parenthood positively once they have begun in that manner (i.e the "self-fulfilling prophecy" of positively-oriented parenthood). As an example, it has been reported that many mothers notice a variety of infant behaviors, but do not

realize the purpose or function of these behaviors in terms of infant needs or development (Riesch, 1979). Teaching parents about the purposeful nature of these behaviors, in a manner which positively illustrates them or illustrates effective responses to them, may therefore promote subsequent appropriate and successful parent-infant interactions. Such successes, as previously discussed, may then promote the development of an internalized and personally validated sense of parental competence.

It is recommended that nurses in settings where early contact with new parents and their infants occurs, evaluate the manner in which they provide early postpartum instruction and support. In addition to usual concerns regarding the environment during patient teaching of any type, a positive and enthusiastic atmosphere is desirable. Certain vocabulary commonly used by nurses may actually convey unintended negative connotations, such as "sleepy baby", "fussy baby", and "lazy baby". It is possible that, particularly in the case of less experienced or less knowledgeable parents, the impact of such terms may foster a negative perception of infant behaviors which, when seen in their true context, are not negative. This is undesirable, and should be consciously avoided.

Secondly, early intervention may help to buffer or reduce feelings of anxiety for parents, thereby enhancing feelings of success and competence. The encouragement and

support of parents in early interactions with their infants, providing them with positive feedback, may help to reduce feelings of anxiety from non-specific or unidentified sources. Again, parents are provided with tangible evidence and verification of their competence, which if internalized, may strengthen their parental sense of competence. Although some researchers have suggested that parental sense of competence and actual performance competence in parenting are not related, the findings from this study demonstrated that parenting anxiety and parental sense of competence are negatively correlated. Therefore, measures which appear to reduce levels of anxiety in parents should support higher levels of parental sense of competence. Clear identification of the sources of parents' feelings of anxiety, if possible, and specific attention to these sources, would lead to increased likelihood of successfully reducing them.

Thirdly, because satisfaction with infant feeding was a significant predictor of parental sense of competence in mothers at T_2, and items concerning feeding comprised part of the Baby scale, which was itself a significant predictor for mothers' parental sense of competence at all four measurement times, the continued involvement of nurses in teaching and supporting mothers in early feeding endeavors was supported. As mothers better understand the meanings of their infants' feeding-related behaviors, they are better

able to respond appropriately and consistently to their babies' cues, and thereby engage in successful feeding interactions. This guidance is especially important following postpartum discharge from hospital and return home, as the family is then in their own natural condition, rather than an artificial environment. Guidance provided both in hospital and at home should be conceptually rather than mechanistically based. Otherwise, parents may only "behave as they were taught", rather than understand and apply their knowledge (Belsky & Benn, 1982). As parents experience a dynamic situation with their babies, which changes over time as they and their babies develop, the need to correctly assess and appropriately apply principles that they have learned is vital.

None of the three suggestions outlined are dramatic in nature. However, they illustrate reasonable steps which can be undertaken by nurses for whom enhancement of parental sense of competence is a goal. They also illustrate the importance of understanding concepts which underlie observed parenting behaviors, in order that intervention strategies which effectively address such concepts, and in turn, influence observed behaviors, may be designed.

Future Study Recommendations

The first recommendation arising from the results of this study concerns scale analysis. It is recommended that

further testing and analysis of the scales be carried out, as their reliability and validity were questioned. In particular, study of the derivation and behavior of the subscales is suggested.

The replication of this study, using a sample of younger parents, is recommended, in order to better understand parental sense of competence in all age groups of parents. Similarly, replication of this study, using a sample of parents representing lower income levels, is recommended.

The addition of external measures of infant behavior, using a tool such as the Brazelton Neonatal Behavioral Assessment Scale, would permit greater understanding of the differences between empirically observed infant behavior and parents' perceptions of their infants behaviors, and the relationships between or effects of these. Similarly, the addition of an empirical measure of actual performance competence in parenting might lead to greater understanding of how parents arrive at a sense of their parental competence, and the differences between perceived and actual parenting competence.

As only one dimension of each of the three major variables was measured in this study, it is recommended that more comprehensive measurement of these occur in similar future studies.

In general, it is recommended that researchers involved in similar studies in the future continue to build on previous research, and attempt to integrate findings across studies so that theory development and testing may occur. It is suggested that one goal of research directed at studying families in the transition to parenthood should be the greater understanding of the actual processes which underlie observed behavior. Intervention programs aimed at enhancing early parent-infant interaction should therefore be based upon replicated research findings, in which understanding of underlying processes has been evidenced.

In conclusion, the further understanding of parental sense of competence holds promise for nurses, and others, who are invested in the promotion of positive transition to parenthood. Through increased understanding of parental sense of competence, and other processes which underlie early parenting, programs which foster the enhancement of parent-infant relations can be better designed and implemented.

This study, despite the identified weaknesses, provided indications for some of those directions. Further study remains to be carried out on the information which was collected, but not integrated into this report. As is frequently the case in research, more questions remain to be answered.

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APPENDIX A:

Parental Sense of Competence Scale

Questionnaire #

Part 1 - Mothers
"Being a Parent"

Listed below are a number of statements. Please respond to each item, indicating your agreement or disagreement with each statement in the following manner:

If you strongly agree, circle the letters SA
If you agree, circle the letter A
If you mildly agree, circle the letters MA
If you mildly disagree, circle the letters MD
If you disagree, circle the letter D
If you strongly disagree, circle the letters SD

---

1. The problems of taking care of a baby are easy to solve once you know how your actions affect your baby, an understanding I have acquired. **SK**

   SA A MA MD D SD

2. Even though being a parent could be rewarding, I am frustrated now while my child is only an infant. **VC-R**

   SA A MA MD D SD

3. I go to bed the same way I wake up in the morning - feeling I have not accomplished a whole lot. **VC-R**

   SA A MA MD D SD

4. I do not know why it is, but sometimes when I'm supposed to be in control, I feel more like the one being manipulated. **VC-R**

   SA A MA MD D SD

5. My mother was better prepared to be a good mother than I am. **VC-R**

   SA A MA MD D SD

6. I would make a fine model for a new mother to follow in order to learn what she would need to know in order to be a good parent. **SK**

SA A MA MD D SD

7. Being a parent is manageable, and any problems are easily solved. **SK**

SA A MA MD D SD

8. A difficult problem in being a parent is not knowing whether you're doing a good job or a bad one. **SK-R**

SA A MA MD D SD

9. Sometimes I feel like I'm not getting anything done. **VC-R**

SA A MA MD D SD

10. I meet my own personal expectations for expertise in caring for my baby. **SK**

SA A MA MD D SD

11. If anyone can find the answer to what is troubling my baby, I am the one. **SK**

SA A MA MD D SD

12. My talents and interests are in other areas, not in being a parent. **VC-R**

SA A MA MD D SD

13. Considering how long I've been a mother, I feel thoroughly familiar with this role. **SK**

SA A MA MD D SD

14. If being a mother of an infant were only more interesting, I would be motivated to do a better job as a parent. **VC-R**

SA A MA MD D SD

15. I honestly believe I have all the skills necessary to be a good mother to my baby. **SK**

SA A MA MD D SD

16. Being a parent makes me tense and anxious. **VC-R**

SA A MA MD D SD

17. Being a good mother is a reward in itself. **VC**

SA A MA MD D SD

18. The questions you have just answered deal with feelings about being a parent. Overall, on a scale from 1 to 10, where 1 is low and 10 is high, how would you rate your <u>feelings of confidence as a parent</u> at this point in time? Please circle your answer.

1 2 3 4 5 6 7 8 9 10
low high

19. Any other comments you would like to make in Part 1 of this questionnaire? If so, please list any comments here:

_____
_____
_____
_____

<u>Note</u>. For fathers' questionnaires, substitute "father" for "mother".

For T_1 questionnaire, items were worded in future tense.

"SK" indicates Skill/Knowledge subscale; "VC" indicates Valuing/Comfort subscale.

"R" indicates that the item is scored in reverse direction.

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APPENDIX B:

Baby Characteristics Scale

Part 2 - Mothers
"Your Baby"

Please circle your response or fill in the blank (if applicable):

1. Do you think your baby has colic or some allergies? yes no

   If "yes", please specify_____
   _____

2. Has your baby had any health problems? yes no

   If "yes", please specify_____
   _____

3. Does your baby have daily crying spells? yes no

   If "yes", how long do they usually last? _____hour (s)

4. Does your baby sleep through the night? yes no

Each of the next 6 questions has 3 possible responses. Please circle your response:

5. a. My baby is easily distracted from milk feedings by noises, changes in places, or routines.
   b. Sometimes my baby is distracted, sometimes not.
   c. My baby usually goes on sucking in spite of distractions.

6. a. My baby moves constantly (squirms, kicks, etc.) during feeding.
   b. My baby moves around some of the time during feeding.
   c. My baby usually lies quietly during feeding.

7. a. My baby seems happy and content after feeding.
   b. My baby seems okay (content) after feeding but not really happy or fussy.
   c. My baby seems fussy after feeding and wants to be left alone.

8. a. My baby squirms and kicks and moves around much during changing and dressing.
   b. My baby moves around some during changing and dressing.
   c. My baby is usually still during changing and dressing.

9. a. My baby is usually pleasant during changing and dressing.
   b. My baby is sometimes pleasant and sometimes fussy during changing and dressing.
   c. My baby is usually fussy during changing and dressing.

10. a. My baby usually enjoys taking a bath.
    b. My baby doesn't seem to care one way or the other about taking a bath.
    c. My baby usually cries and/or fusses about taking a bath.

For each of the following 5 questions, please check (✓) the answer of your choice.

Compared to most other babies, do you think your baby is:

	1	2	3	4	5
11.	cries less/		/average/		/cries more
12.	less sociable/		/average/		/more sociable
13.	less tense/		/average/		/more tense
14.	less happy/		/average/		/more happy
15.	less easygoing/		/average/		/more easygoing

16. The questions you have just answered deal with your baby's behavior. Overall, on a scale of 1 to 10, where 1 is difficult to care for and 10 is easy to care for, how would you rate <u>your</u> <u>baby's</u> <u>behavior</u> at this time? Please circle your answer.

1 2 3 4 5 6 7 8 9 10

difficult to care for — easy to care for

17. Any other comments you would like to make in Part 2 of this questionnaire? If so, please list any comments here:

_____

_____

_____

_____

Note. For fathers' questionnaires, substitute "father" for "mother".

For T_1 questionnaire, items were worded in future tense.

APPENDIX C:

Social Network Support Scale

Part 3 - Mothers
"People Around You"

Please indicate the degree you feel the following statements are true or untrue by marking your answer with a check mark (✓).

	Almost always true	Often true	Some-times true	Seldom true	Never True
1. I feel loved.	___	___	___	___	___
2. I am satisfied with the number of close friends I have.	___	___	___	___	___
3. I wish there were more people around with whom I might share personal things.	___	___	___	___	___
4. There are people who I can count on to help if I need them.	___	___	___	___	___
5. My friends are helpful.	___	___	___	___	___

6. The questions you have just answered deal with the supportiveness of people around you. On a scale of 1 to 10, where 1 is very unsupportive and 10 is very supportive, how would you rate the <u>overall</u> <u>supportiveness</u> of your family, friends, and neighbours, at this point in time? Please circle your response.

1 2 3 4 5 6 7 8 9 10

very unsupportive — very supportive

7. Any other comments you would like to add in Part 3 of this questionnaire? If so, please list any comments here:

_____

_____

_____

APPENDIX D:

Additional Questionnaire Items

Questionnaire 1
Additional Questions

1. Age in years:____

2. Sex: male___ female___

3. What is the highest level of education that you have completed?
   a. No schooling___
   b. Elementary
      incomplete___
      complete___
   c. Junior High
      Incomplete___
      Complete___
   d. High School
      Incomplete___
      Complete___
   e. Non-University (eg. Vocational, Technical, Nursing Schools)
      Incomplete___
      Complete___
   f. University
      Incomplete___
      Diploma/Certificate___
      Bachelor's Degree___
      Medical Degree (eg. Veterinarians, Dr.'s, Dentists)___
      Master's Degree___
      Doctorate___

4. a. Occupation:_____
   b. What type of work do you do?_____
      _____

5. Employment Status:
   a. Presently employed in my preferred line of work___
   b. Presently employed, not in my preferred line of work___
   c. Presently on maternity leave, my former job or a similar one guaranteed upon my return___
   d. Presently on maternity leave, no job guaranteed when I am ready to return to work___
   e. Presently unemployed, my choice (eg. not working, but this is the way I planned it)___
   f. Presently unemployed, not my choice (eg. laid off, haven't found another job yet)___
   g. Other (describe):_____
      _____

6. Please circle the response which best describes how you feel about your current employment status:

1	2	3	4	5	6
very dissatisfied					very satisfied

7. a. Are you a cigarette smoker? yes___ no___
   b. If "yes", please circle the daily amount you smoke while you are at home:

1	2	3	4	5	6
less than 1/2 pk	1/2 pk	1 pk	1 1/2 pk	2 pk	more than 2 pk

8. a. If you do not smoke cigarettes, do you regularly use other tobacco products? yes___ no___
   b. If "yes", please describe type and amount used daily while at home_____

9. Expected date of baby's birth?_____

10. Please circle the response which best describes the extent of any health problems encountered (by the mother) during this pregnancy:

1	2	3	4	5
serious complications		only average discomforts		no problems at all

If you circled 1 or 2, please describe_____
_____
_____

11. In what manner are you expecting that your baby will be born? Please indicate any that apply:
   a. Normally, without any special steps___
   b. Induction (ie. an induced labor)___
   c. Caesarian section___
   d. Other (Please describe)_____
   _____

12. Please circle the response which best describes your present level of anxiety toward labor and delivery:

1	2	3	4	5	6
extremely worried, nervous					very relaxed, confident

13. How prepared do you feel at this time to become a parent? Circle the response that best describes your current feelings of preparedness:

1	2	3	4	5	6
not at all prepared					completely prepared

14. Please circle the response which best describes your current level of anxiety about becoming a parent:

1	2	3	4	5	6
extremely worried, nervous					very relaxed, confident

15. How would you rate your previous experience in caring for infants less than 1 month old?

1	2	3	4	5	6
none					a great deal

16. a. Have you made any definite arrangements with family or friends for additional help when your baby is first home from the hospital? yes___ no___ still working out details___

b. If "yes", please describe these arrangements_____

_____

_____

17. How <u>helpful</u> do <u>you</u> think this person or these arrangements will be? Please circle your response:

1	2	3	4	5
very unhelpful		no effect		very helpful

18. In what way do you intend to <u>feed your baby</u>? Please circle your response:

1	2	3	4	5
totally breastfed		breast & bottle equally		totally bottlefed

Any other plans for feeding in the first month? Please describe_____

_____

19. Before this pregnancy began, how many <u>hours of continuous sleep</u> per night would you typically need in order to feel fully rested in the morning? Or, if you work shift work and sleep during the day, how many <u>hours of continuous sleep</u> would you need to feel rested? Please circle your response:

1	2	3	4	5	6	7	8	9	10	11	12	greater than 12 hours

20. a. Was this pregnancy planned? yes___ no___ sort of___
b. If "sort of", please explain_____

_____

21. Any other comments you would like to add?_____

_____

_____

_____

_____

Questionnaire 2
Additional Questions

1. Was your baby born on the expected due date? yes___ no___
   If "no", how many days early____ or days late____

2. For fathers only:
   a. Of the portion of labor which occurred in hospital, please rate how much you were present for:

1	2	3	4
none	some	most	all

   b. Of the delivery, please indicate how much you were present for:

1	2	3	4
none	some	most	all

3. If you take the beginning of labor to be the onset of the first regular contractions, or the sudden breaking of waters (whichever came first), and the end of labor to be the baby's birth, how long was your labor? hours___ minutes___

4. Please rate the difficulty of your labor and delivery experience on the following scale:

1	2	3	4	5
much more difficult than I expected		about what I expected		much less difficult than I expected

   Comments?_____
   _____
   _____

5. During your labor and delivery, did any of the following occur?
   a. Fetal monitoring yes___ no___
   b. Induced labor yes___ no___
   c. Forceps yes___ no___
   d. Episiotomy yes___ no___
   e. Caesarian section yes___ no___

6. Had you anticipated that any of these procedures would occur?
   a. Fetal monitoring yes___ maybe___ no___
   b. Induced labor yes___ maybe___ no___
   c. Forceps yes___ maybe___ no___
   d. Episiotomy yes___ maybe___ no___
   e. Caesarian section yes___ maybe___ no___

7. Did any other procedures occur during labor and delivery which you did not expect? yes___ no___ If "yes", please describe___

_____

_____

8. a. Did the mother receive any drugs, by mouth or by injection, during labor which led to decreased mental awareness during the last 15 minutes of labor and the birth? yes___ no___

b. If "yes", please rate whether this effect was or was not helpful, in relation to your (not your spouse's) labor and delivery experience:

1	2	3	4	5	6
most unhelpful					extremely helpful

Explain_____

_____

_____

9. How would you rate your overall satisfaction with your labor and delivery experience? Please circle your response:

1	2	3	4	5	6
completely dissatisfied					completely satisfied

10. How would you rate the highest level of concerns you may have had about your baby during labor and delivery? Please circle your response:

1	2	3	4	5	6
great concerns					no concerns at all

Explain_____

_____

_____

11. How would you rate the general level of concerns you may have now about your baby? Please circle your response:

1	2	3	4	5	6
great concerns					no concerns at all

Explain_____

_____

12. a. If your baby is with the parents for feedings, how is your baby currently being fed? Please circle your response:

1	2	3	4	5
totally breastfed		breast & bottle equally		totally bottlefed

b. If your baby is with the parents for feedings, please list types and amounts of any other liquids or solids which your baby may also be receiving:_____

_____

c. If your baby is not with the parents for feedings (eg. is presently being observed in one of the special nurseries), please describe the present method and type of feeding:

_____

_____

13. How satisfied are you with the way that your baby's feeding is going? Please circle your response:

1	2	3	4	5	6
very dissatisfied					very satisfied

Explain_____

_____

14. Please circle the response which best describes your current level of anxiety about being a parent:

1	2	3	4	5	6
extremely worried, nervous					very relaxed, confident

15. Based on your experience so far, how would you rate your ability to care for your baby? Please circle your response:

1	2	3	4	5	6
fumbling					capable

16. Based on your experience so far, how confident are you when caring for your baby? Please circle your response:

1	2	3	4	5	6
very much lacking in confidence					completely confident

17. Based on your experience so far, how would you rate your spouse's ability to care for your baby? Please circle your response:

1	2	3	4	5	6
fumbling					capable

18. Based on your experience so far, how confident are you, that when your spouse looks after the baby, that the baby will be well looked after? Please circle your response:

1	2	3	4	5	6
very much lacking in confidence					completely confident

19. (For smokers and those who use other tobacco products only) How would you rate your tobacco use at this time, as compared to when you filled out the previous questionnaire?

1	2	3	4	5
much greater		same		much less

20. Any other comments you would like to add?_____
_____
_____
_____

Thank you for taking the time to fill in this questionnaire.
What time was it when you finished the last question? _____

Questionnaire 3
Additional Questions

1. a. Did you experience additional help at home from family or friends when your baby was first home from the hospital?
yes___ no___

b. If "yes", please rate the overall helpfulness of this person or people, as you look back on it now:

1	2	3	4	5
very unhelpful		no effect		very helpful

Explain_____

_____

2. a. How is your baby currently being fed? Please circle your response:

1	2	3	4	5
totally breastfed		breast & bottle equally		totally bottlefed

b. Please list type and amounts of other liquids and solid foods that your baby presently receives (if any)_____

_____

_____

3. How satisfied are you with the way that your baby's feeding is going? Please circle your response:

1	2	3	4	5	6
very dissatisfied					very satisfied

4. a. How would you rate the general level of concerns you may have now about your baby? Please circle your response:

1	2	3	4	5	6
great concerns					no concerns at all

b. If you indicated 1 or 2 to question 4a, please explain:

_____

_____

5. How would you rate the overall demands of being a parent, at this time? Please circle your response:

1	2	3	4	5	6
much more demanding than I expected					much less demanding than I expected

6. How would you rate your overall satisfaction with being a parent, at this time? Please circle your response:

1	2	3	4	5	6
much less satisfying than I expected					much more satisfying than I expected

7. How would you rate your overall satisfaction with life in general, at this time? Please circle your response:

1	2	3	4	5	6	7	8	9	10
very unhappy									very happy

8. How many continuous hours of sleep per night have you been averaging over the past week? Please circle your response:

1 2 3 4 5 6 7 8 9 10 11 12

9. How would you rate your present energy level, as compared to your usual energy level before the pregnancy began? Please circle your response:

1	2	3	4	5
much less energetic, overtired		no change		much more energetic, lively

10. Please circle the response which best describes your <u>current level of anxiety</u> about being a parent:

1	2	3	4	5	6
extremely worried, nervous					very relaxed, confident

11. Based on your experience so far, how would you rate <u>your ability</u> to care for your baby? Please circle your response:

1	2	3	4	5	6
fumbling					capable

12. Based on your experience so far, how <u>confident</u> are you when caring for your baby? Please circle your response:

1	2	3	4	5	6
very much lacking in confidence					completely confident

13. Based on your experience so far, how would you rate <u>your spouse's ability</u> to care for your baby? Please circle your response:

1	2	3	4	5	6
fumbling					capable

14. Based on your experience so far, how <u>confident</u> are you, that when your <u>spouse</u> looks after the baby, that the baby will be well looked after? Please circle your response:

1	2	3	4	5	6
very much lacking in confidence					completely confident

15. (For smokers and those who use tobacco products only)
How would you rate your tobacco use at this time, as compared to your rate of use prior to the baby's birth?

1	2	3	4	5
much greater		same		much less

16. Any other comments you would like to add?_____

_____

_____

_____

Thank you for taking the time to fill in this questionnaire.
What time was it when you finished the last question? _____

Questionnaire 4
Additional Questions

1. a. How would you rate the general level of concerns you may have now about your baby? Please circle your response:

1	2	3	4	5	6
great concerns					no concerns at all

b. If you indicated 1 or 2 to question 1a, please explain:

_____

_____

2. a. How is your baby currently being fed? Please circle your response:

1	2	3	4	5
totally breastfed		breast & bottle equally		totally bottlefed

b. Please list type and amounts of other liquids and solid foods that your baby presently receives (if any)_____

_____

_____

3. How satisfied are you with the way that your baby's feeding is going? Please circle your response:

1	2	3	4	5	6
very dissatisfied					very satisfied

4. How would you rate the overall demands of being a parent, at this time? Please circle your response:

1	2	3	4	5	6
much more demanding than I expected					much less demanding than I expected

5. How would you rate your overall satisfaction with being a parent, at this time? Please circle your response:

1	2	3	4	5	6
much less satisfying than I expected					much more satisfying than I expected

6. How would you rate your overall satisfaction with life in general, at this time? Please circle your response:

1	2	3	4	5	6	7	8	9	10
very unhappy									very happy

7. How many continuous hours of sleep per night have you been averaging over the past week? Please circle your response:

1	2	3	4	5	6	7	8	9	10	11	12

8. How would you rate your present energy level, as compared to your usual energy level before the pregnancy began? Please circle your response:

1	2	3	4	5
much less energetic, overtired		no change		much more energetic, lively

9. Please circle the response which best describes your current level of anxiety about being a parent:

1	2	3	4	5	6
extremely worried, nervous					very relaxed, confident

10. Based on your experience so far, how would you rate your ability to care for your baby? Please circle your response:

1	2	3	4	5	6
fumbling					capable

11. Based on your experience so far, how confident are you when caring for your baby? Please circle your response:

1	2	3	4	5	6
very much lacking in confidence					completely confident

12. Based on your experience so far, how would you rate your spouse's ability to care for your baby? Please circle your response:

1	2	3	4	5	6
fumbling					capable

13. Based on your experience so far, how confident are you, that when your spouse looks after the baby, that the baby will be well looked after? Please circle your response:

1	2	3	4	5	6
very much lacking in confidence					completely confident

14. (For smokers and those who use tobacco products only) How would you rate your tobacco use at this time, as compared to when you filled in the previous questionnaire (i.e. over the past 2 months, since your baby was 1 month old)?

1	2	3	4	5
much greater		same		much less

15. Employment status:
    a. Presently employed in my preferred line of work___
    b. Presently employed, not in my preferred line of work___
    c. Presently on maternity leave, my former job or a similar one guaranteed upon my return___
    d. Presently on maternity leave, no job guaranteed when I am ready to return to work___
    e. Presently unemployed, my choice (eg. not working, but this is the way I planned it)___
    f. Presently unemployed, not my choice (eg. laid off, haven't found another job yet)___
    g. Other (describe)_____
    _____

16. Please circle the response which best describes how you feel about your current employment status:

1	2	3	4	5	6
very dissatisfied					very satisfied

The issue of family income can be a touchy subject at best. It is included as one of the questions on this last questionnaire, not as an indicator of social standing or class, but as a factor which may have a direct influence on new parents' adjustment to parenthood. It cannot be denied that having a baby, and raising a family, costs money. Perhaps financial burden has an effect on parents' feelings of confidence. It is for this reason, and this reason only, that the next question is asked.

17. Which category comes closest to the total income of all the members of your household for the past year, before tax and deductions? Please circle the letter of your choice:

a. 0-$9999
b. $10000-$19999
c. $20000-$29999
d. $30000-$39999
e. $40000-$49999
f. $50000-$59999
g. $60000 plus

18. Any other comments you would like to add?_____
    _____
    _____
    _____
    _____

Thank you for taking the time to fill in this questionnaire.
What time was it when you finished the last question? _____

My sincerest thanks to all of you for having participated in this study. It would not have been possible without your help. It will be several months from now before I finish analyzing the data from all the questionnaires, and complete the formal writing up of this study, but as soon as I have done that, I will be sure to mail all of you a final report. I will use the most current mailing address you have given me for this, so if you move in the near future, but still wish a copy of the final report, I will include my address here for you to tear off, so that you can let me know of any changes.

Once again, thank you. Best wishes to you and your babies in the future!

Donna Gojmerac
Graduate Student
c/o Faculty of Nursing
3-120 Clinical Sciences Building
University of Alberta
Edmonton, Alberta
T6G 2G3

APPENDIX E:

Parents' Information Letter and Consent

University of Alberta
Faculty of Nursing

SELF-CONFIDENCE IN FIRST-TIME PARENTS
INFORMATION FOR PARENTS

Investigator: Donna Gojmerac RN BScN, Master in Nursing Candidate. Telephone: [redacted] (home)

Thesis Supervisor: Dr. Peggy Anne Field RN SCM PhD
Professor, Faculty of Nursing
3-118 Clinical Sciences Building
University of Alberta T6G 2G3
Telephone: 432-6248

Not much is really known about how first-time parents develop feelings of self-confidence in themselves as parents. Neither is it clearly understood what kinds of experiences increase or decrease self-confidence in new parents. The purpose of this study is to try and find some answers to these questions, so that those who work with new families are in a better position to provide support and information to new parents that will help their self-confidence develop.

Parents who agree to join the study will be followed by mail for about a 4 month period of time, beginning before the baby is born, and ending when the baby is about 3 months old. During that time, there will be 4 times when both parents will be asked to fill out a set of questionnaires. These 4 times are:

1. firstly, before the baby is born
2. secondly, just after the baby is born, while mother and baby are still in hospital
3. thirdly, when the baby is 1 month old
4. fourthly, when the baby is 3 months old

Each set of questionnaires will take 20-30 minutes to complete. Addressed and stamped envelopes will be provided for their return. Some brief telephone contact is planned. When this occurs, it will be for the purpose of confirming the parents' address (some parents may indicate during the study that they are planning a move), to remind parents that questionnaires are being mailed out to them, and to ask if parents still wish to continue in the study (in the event that questionnaires are not returned within 2 weeks of mailing).

Parents who agree to join the study are free to withdraw at any time, or to omit any questions they do not wish to answer. The ONLY information used in this study are the parents' written responses from the questionnaires; NO OTHER SOURCES will be contacted or used. Information from the questionnaires will be coded into number form, for statistical analysis, and no parents' names will appear in the final report of the study. All information will be treated confidentially. Those portions of the

questionnaires or any other records which contain parents' names, addresses, or telephone numbers will be destroyed upon completion of the study.

It is possible that at a later date this data might be used for further analysis, termed "secondary analysis". The data set would at that time be completely anonymous, all parents' names and other identifying information having been destroyed upon completion of this study, as has just been described.

Parents who agree to join the study are asked not to discuss their answers to the questionnaires, so that they do not affect each others' answers. Parents will be asked to complete the questionnaires as soon as possible after receiving them. For example, 30 minutes could be set aside later that evening in which parents would sit down, apart from each other, to fill out their answers. Each parent is then asked to seal their own questionnaire in the attached envelope, and then to place these two envelopes into the larger stamped, addressed envelope also provided, for mailing as soon as it is convenient. Except for those times when the questionnaires arrive in the mail, parents are asked to "forget" that they are part of a study, and "just be themselves". There are no right or wrong answers in this study, and no intent to identify "good" or "bad" parents. The questions are not designed for that purpose. The ONLY purpose of this study is to try and better understand feelings of self-confidence in new parents, and factors which may influence self-confidence.

All parents involved will be mailed a written report of the study's findings following completion. This will likely be available about 4-6 months following completion and mailing of the last set of questionnaires. Parents are invited to contact the researcher or her advisor at any time while the study is under way, if there are questions or comments.

Any questions?

University of Alberta
Faculty of Nursing

INFORMED CONSENT FORM

Project Title: Self-Confidence in First-Time Parents
Investigator: Donna Gojmerac RN BScN, Master in Nursing Candidate
Telephone [redacted]-[redacted](home)

Thesis Supervisor: Dr. Peggy Anne Field RN SCM PhD
Professor, Faculty of Nursing
3-118 Clinical Sciences Building
University of Alberta T6G 2G3
Telephone: 432-6248

The following aspects of this research study have been explained to me to my satisfaction:

1. That the purpose of this research project is to increase understanding about self-confidence in first-time parents, and factors which may influence it.
2. That we will be asked to complete 4 sets of questionnaires which we will receive through the mail, each set taking 20-30 minutes to complete. Addressed and stamped envelopes will be provided for use in returning the questionnaires. There will be some brief telephone contact with the researcher, concerning our desire to continue in the study, and to confirm that our address is correct.
3. That the researcher will be solely responsible for reading, coding, and analyzing the data from the questionnaires. Any discussion that the researcher has with her advisor or other members of her thesis committee concerning the questionnaire data as it is received and analyzed will be strictly confidential.
4. That the final written thesis, and any other written or verbal reports based upon this data, will be similarly confidential.
5. That we will receive a written final report of the study's findings, mailed to our home.

We understand that there may be no direct benefits for us for participation in this study, but that it is hoped that the knowledge gained in this study will assist those who work with new parents, by being better able to assist and support them.

We understand that there will be no risks to us or our baby as a result of participating in this research.

We herby give our permission to be part of this study and to have questionnaires mailed to our home. We understand that these questionnaires will be identified by numbers only, and any information or records containing our names, address, and telephone number will be destroyed upon completion of this study. The possibility of further data analysis has been outlined to

us, and if this occurs, we understand that it would be conducted in a completely confidential manner.

We understand that our names will in no way be associated with any published accounts of this research. We understand that we are free to refuse to answer any of the items, and that we may withdraw from the study at any time without consequences to ourselves or our baby.

We have had the opportunity to ask questions and these questions (if any) have been answered to our satisfaction.

THIS IS TO CERTIFY THAT WE,_____,
HEREBY AGREE TO PARTICIPATE AS VOLUNTEERS IN THE ABOVE NAMED PROJECT.

_____ _____
Participant Date

_____ _____
Participant Date

_____ _____
Investigator Date

APPENDIX F:

Questionnaire Instruction Letters

Instruction letter used with questionnaires 1, 3, and 4

Self-Confidence in First-Time Parents
Questionnaire Instructions

Name:_____ Telephone:_____
Address:_____ Postal Code:_____
Any address or phone changes?_____
_____

Thank you for agreeing to become part of this study. Enclosed you will find your 10 page questionnaire. Here are a few instructions to help you in filling out the questions:

1. When the questionnaires arrive, try to agree on a time when you both can set aside 30 minutes to sit down and fill it out. For example, you might agree to sit down after supper the day you receive it. This suggestion is made only to avoid the chance of the questionnaire being misplaced or forgotten.

2. Each husband and wife fills in their own questionnaire. Please do not talk to each other about your answers as you fill in the questionnaires; each of your opinions is important.

3. Remember that there are no "right" or "wrong" answers. Please answer the questions as truthfully and as best you can.

4. Some of the questions will take a little bit of thinking. However, try not to spend too long on any one question.

5. After completing your questionnaire, please fold and place it in one of the small envelopes provided. Seal the small envelopes, and place them in the large addressed and stamped envelope for mailing.

6. Don't forget to mail back your completed questionnaires!

It is important that you feel comfortable about being involved in this study. If you have any questions or concerns about any of the questionnaire items, please feel free to call Donna Gojmerac at [redacted].

As you start the questionnaire, what time is it? _____

Instruction letter used with questionnaire 2

Self-Confidence in First-Time Parents
Questionnaire Instructions

Name:_____ Telephone:_____
Address:_____ Postal Code:_____
Any address or phone changes?_____
_____

Thank you for agreeing to become part of this study. Enclosed you will find your 10 page questionnaire. Here are a few instructions to help you in filling out the questions:

1. This is the questionnaire you are asked to place in your hospital suitcase, and fill in before mother and baby are discharged home. Your baby should be at least 48 hours old when you fill in the questionnaire. However, if time does not allow you to do this while mother and baby are still in hospital, please try to complete the questionnaire during the first week you are home with your new baby. Please indicate here when you were able to fill in this questionnaire:
   a. able to fill in while in hospital ___
   b. questionnaire filled in at home ___

2. Each husband and wife fills in their own questionnaire. Please do not talk to each other about your answers as you fill in the questionnaires; each of you opinions is important.

3. Remember that there are no "right" or "wrong" answers. Please answer the questions as truthfully and as best you can.

4. Some of the questions will take a little bit of thinking. However, try not to spend too long on any one question.

5. After completing your questionnaire, please fold and place it in one of the small envelopes provided. Seal the small envelopes, and place them in the large addressed and stamped envelope for mailing.

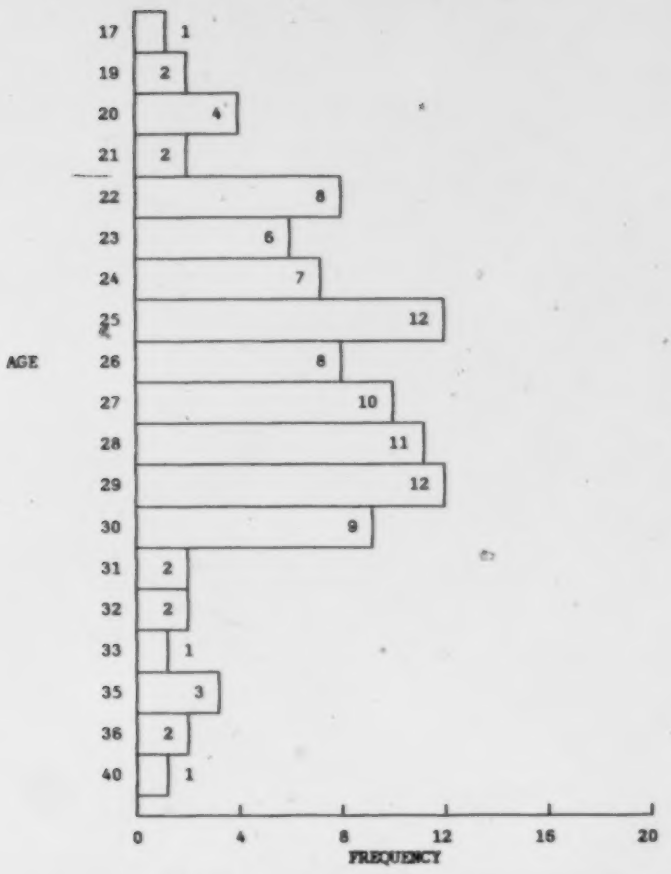
6. Don't forget to mail back your completed questionnaires!

It is important that you feel comfortable about being involved in this study. If you have any questions or concerns about any of the questionnaire items, please feel free to call Donna Gojmerac at [redacted].

As you start the questionnaire, what time is it? _____

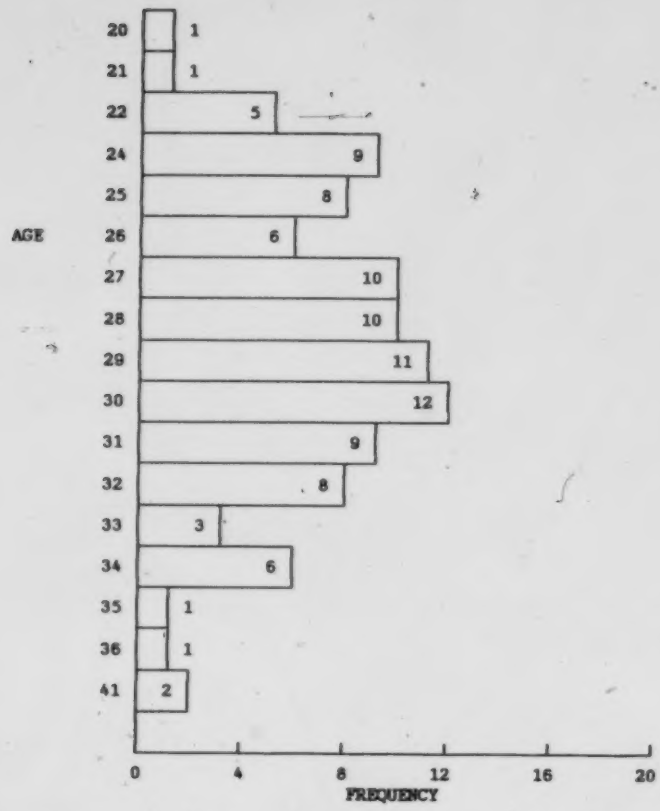
APPENDIX G:

Study Samples' Characteristics Tables



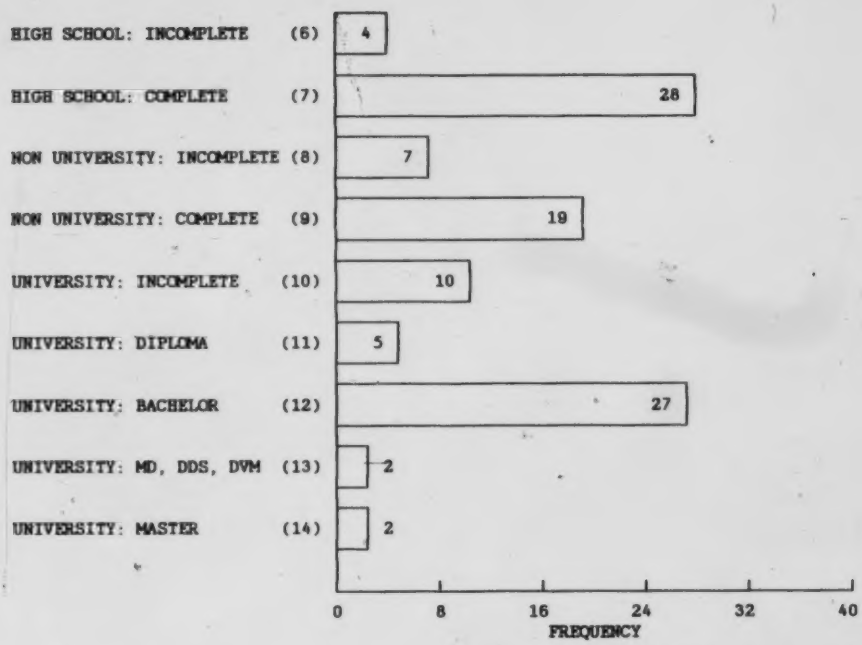
MEAN	26.592	STD ERR	.399	MEDIAN	27.000
MODE	25.000	STD DEV	4.052	VARIANCE	16.420
KURTOSIS	.703	S E KURT	.472	SKEWNESS	.404
S E SKEW	.238	RANGE	23.000	MINIMUM	17.000
MAXIMUM	40.000	SUM	2739.000		
VALID CASES	103	MISSING CASES	2		

Figure G-1 Age in years: Mothers



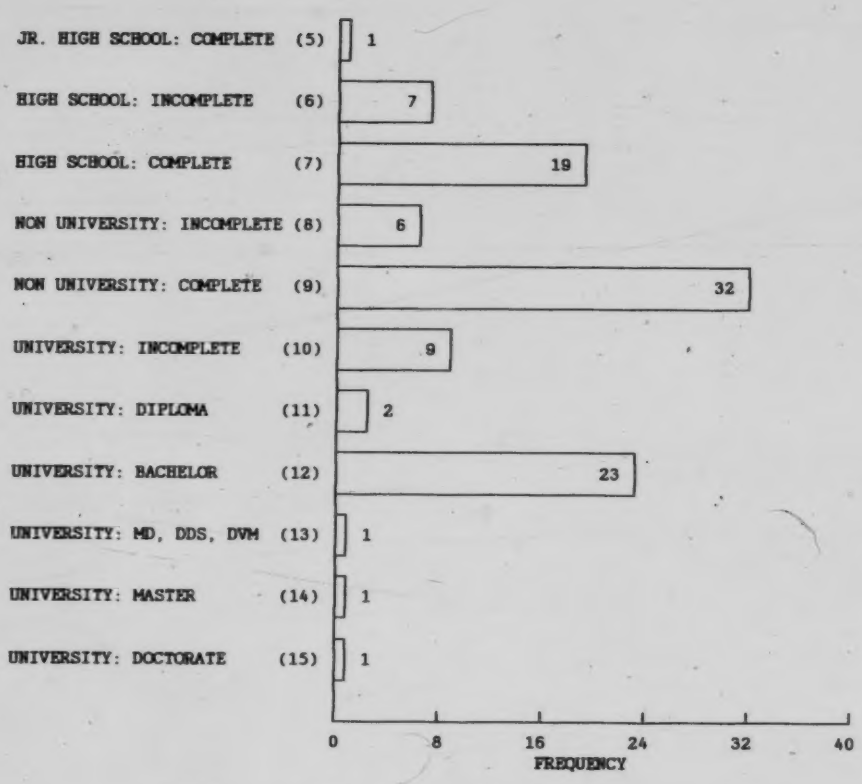
MEAN	28.573	STD ERR	.380	MEDIAN	29.000
MODE	30.000	STD DEV	3.859	VARIANCE	14.894
KURTOSIS	.840	S E KURT	.472	SKEWNESS	.412
S E SKEW	.238	RANGE	21.000	MINIMUM	20.000
MAXIMUM	41.000	SUM	2943.000		
VALID CASES	103	MISSING CASES	2		

Figure G-2 Age in years: Fathers



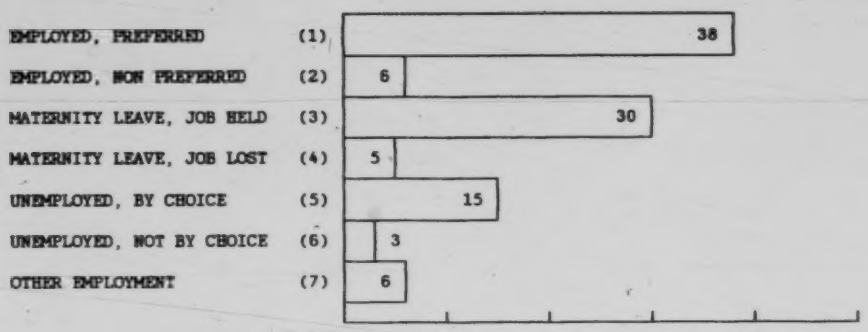
MEAN	9.423	STD ERR	.214	MEDIAN	9.000
MODE	7.000	STD DEV.	2.184	VARIANCE	4.771
KURTOSIS	-1.294	S E KURT	.469	SKEWNESS	.177
S E SKEW	.237	RANGE	8.000	MINIMUM	6.000
MAXIMUM	14.000	SUM	980.000		
VALID CASES	104	MISSING CASES	1		

Figure G-3 Highest education completed: Mothers


JR. HIGH SCHOOL: COMPLETE (5) 1
HIGH SCHOOL: INCOMPLETE (6) 7
HIGH SCHOOL: COMPLETE (7) 19
NON UNIVERSITY: INCOMPLETE (8) 6
NON UNIVERSITY: COMPLETE (9) 32
UNIVERSITY: INCOMPLETE (10) 9
UNIVERSITY: DIPLOMA (11) 2
UNIVERSITY: BACHELOR (12) 23
UNIVERSITY: MD, DDS, DVM (13) 1
UNIVERSITY: MASTER (14) 1
UNIVERSITY: DOCTORATE (15) 1
0 8 16 24 32 40
FREQUENCY

MEAN	9.275	STD ERR	.210	MEDIAN	9.000
MODE	9.000	STD DEV	2.121	VARIANCE	4.498
KURTOSIS	-.641	S E KURT	.474	SKEWNESS	.279
S E SKEW	.239	RANGE	10.000	MINIMUM	5.000
MAXIMUM	15.000	SUM	946.000		
VALID CASES	102	MISSING CASES	3		

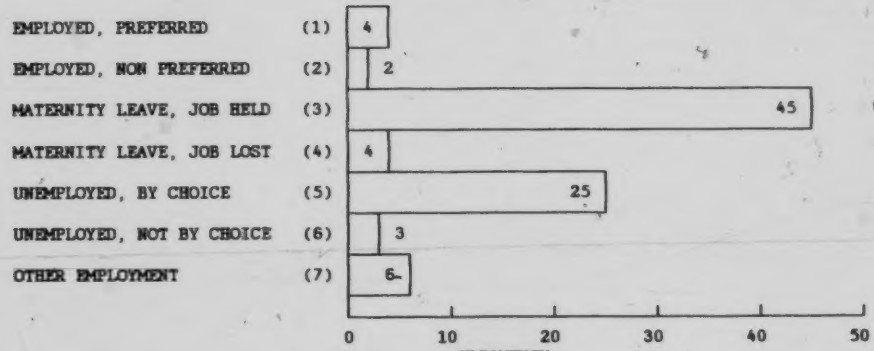
Figure G-4 Highest education completed: Fathers


EMPLOYED, PREFERRED (1) 38
EMPLOYED, NON PREFERRED (2) 6
MATERNITY LEAVE, JOB HELD (3) 30
MATERNITY LEAVE, JOB LOST (4) 5
UNEMPLOYED, BY CHOICE (5) 15
UNEMPLOYED, NOT BY CHOICE (6) 3
OTHER EMPLOYMENT (7) 6
0 10 20 30 40 50
FREQUENCY

MEAN	2.864	STD ERR	.181	MEDIAN	3.000
MODE	1.000	STD DEV	1.837	VARIANCE	3.374
KURTOSIS	-.506	S E KURT	.472	SKEWNESS	.679
S E SKEW	.238	RANGE	6.000	MINIMUM	1.000
MAXIMUM	7.000	SUM	295.000		
VALID CASES	103	MISSING CASES	2		

Figure G-5 Present employment status: Mothers

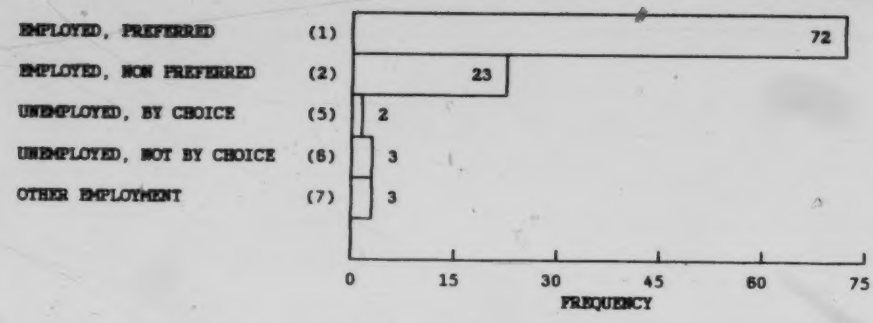
First measurement interval


EMPLOYED, PREFERRED (1) 4
EMPLOYED, NON PREFERRED (2) 2
MATERNITY LEAVE, JOB HELD (3) 45
MATERNITY LEAVE, JOB LOST (4) 4
UNEMPLOYED, BY CHOICE (5) 25
UNEMPLOYED, NOT BY CHOICE (6) 3
OTHER EMPLOYMENT (7) 6
0 10 20 30 40 50
FREQUENCY

MEAN	3.865	STD ERR	.151	MEDIAN	3.000
MODE	3.000	STD DEV	1.424	VARIANCE	2.027
KURTOSIS	-.138	S E KURT	.506	SKEWNESS	.461
S E SKEW	.255	RANGE	6.000	MINIMUM	1.000
MAXIMUM	7.000	SUM	344.000		
VALID CASES	89	MISSING CASES	16		

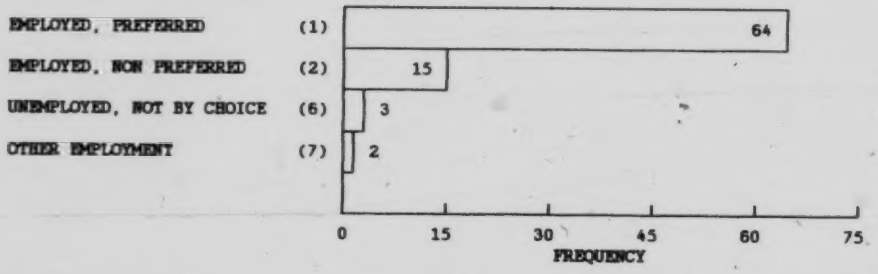
Figure G-6 Present employment status: Mothers

Fourth measurement interval


EMPLOYED, PREFERRED (1) 72
EMPLOYED, NON PREFERRED (2) 23
UNEMPLOYED, BY CHOICE (5) 2
UNEMPLOYED, NOT BY CHOICE (6) 3
OTHER EMPLOYMENT (7) 3
0 15 30 45 60 75
FREQUENCY

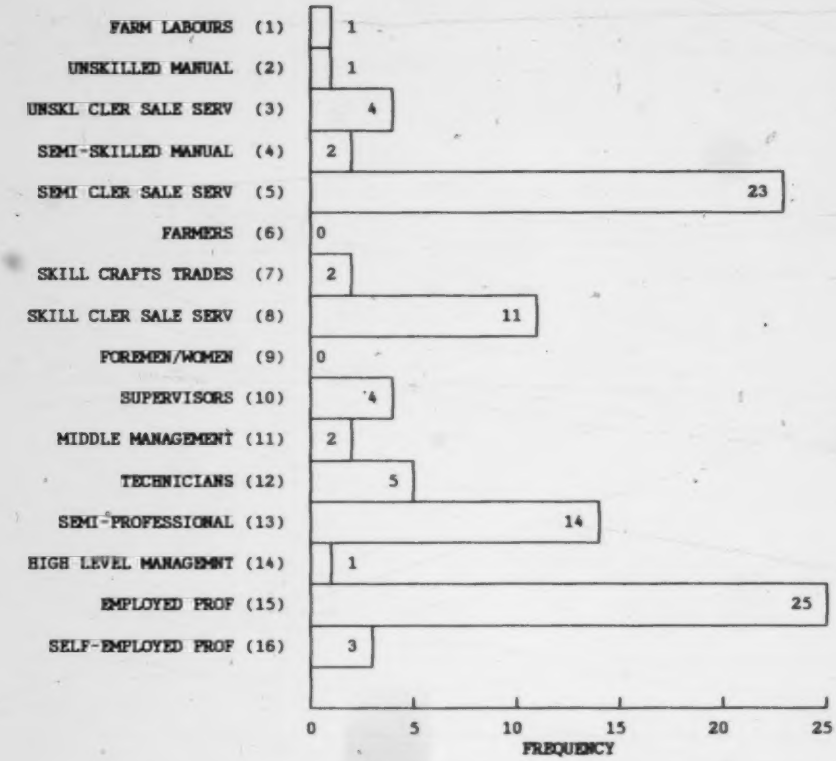
MEAN	1.621	STD ERR	.137	MEDIAN	1.000
MODE	1.000	STD DEV	1.394	VARIANCE	1.943
KURTOSIS	7.606	S E KURT	.472	SKEWNESS	2.878
S E SKEW	.238	RANGE	6.000	MINIMUM	1.000
MAXIMUM	7.000	SUM	167.000		
VALID CASES	103	MISSING CASES	2		

Figure G-7 Present employment status: Fathers
First measurement interval


EMPLOYED, PREFERRED (1) 64
EMPLOYED, NON PREFERRED (2) 15
UNEMPLOYED, NOT BY CHOICE (6) 3
OTHER EMPLOYMENT (7) 2
0 15 30 45 60 75
FREQUENCY

MEAN	1.500	STD ERR	.142	MEDIAN	1.000
MODE	1.000	STD DEV	1.303	VARIANCE	1.699
KURTOSIS	10.645	S E KURT	.520	SKEWNESS	3.344
S E SKEW	.263	RANGE	6.000	MINIMUM	1.000
MAXIMUM	7.000	SUM	126.000		
VALID CASES	84	MISSING CASES	21		

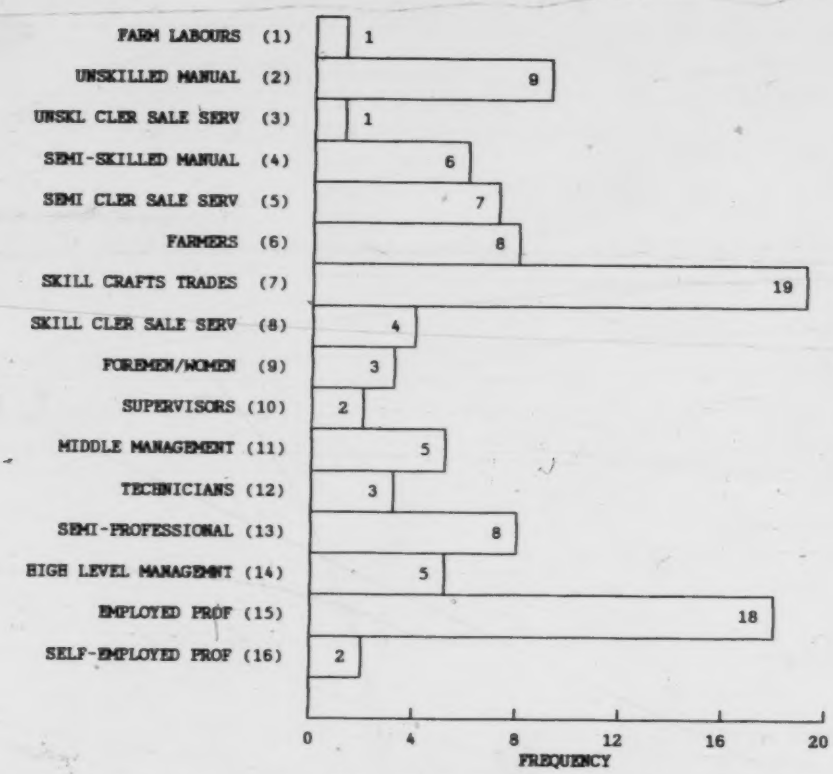
Figure G-8 Present employment status: Fathers
Fourth measurement interval



MEAN	10.010	STD ERR	.453	MEDIAN	11.000
MODE	15.000	STD DEV	4.480	VARIANCE	20.072
KURTOSIS	-1.499	S E KURT	.483	SKEWNESS	-.218
S E SKEW	.244	RANGE	15.000	MINIMUM	1.000
MAXIMUM	16.000	SUM	981.000		
VALID CASES	98	MISSING CASES	7		

Figure G-9 Socioeconomic status: Mothers

Pineo-Porter-McRoberts classification

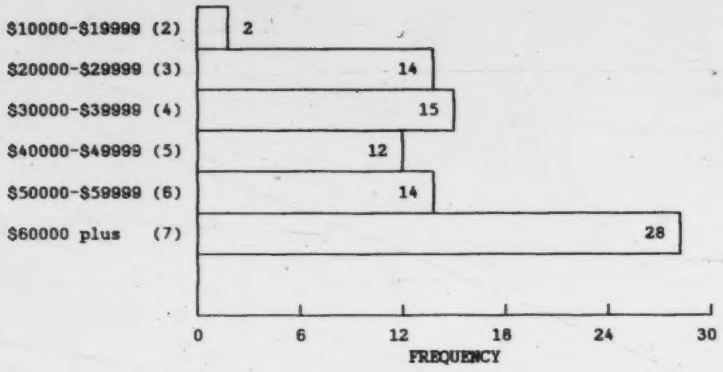


MEAN	8.990	STD ERR	.445	MEDIAN	7.000
MODE	7.000	STD DEV	4.475	VARIANCE	20.030
KURTOSIS	-1.315	S E KURT	.476	SKEWNESS	.058
S E SKEW	.240	RANGE	15.000	MINIMUM	1.000
MAXIMUM	16.000	SUM	908.000		

VALID CASES 101 MISSING CASES 4

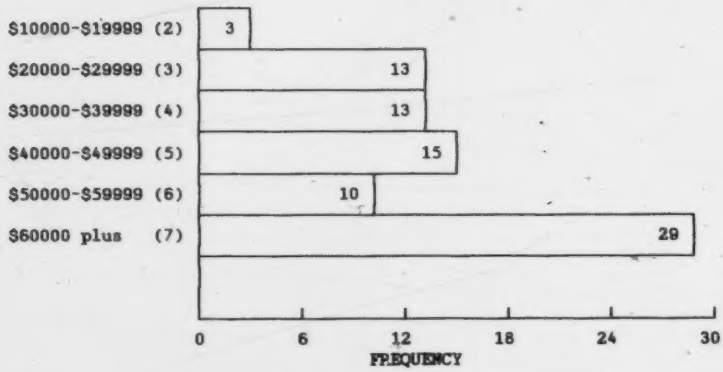
Figure G-10 Socioeconomic status: Fathers

Pineo-Porter-McRoberts classification



MEAN	5.247	STD ERR	.171	MEDIAN	5.000
MODE	7.000	STD DEV	1.580	VARIANCE	2.498
KURTOSIS	-1.298	S E KURT	.517	SKEWNESS	-.308
S E SKEW	.261	RANGE	5.000	MINIMUM	2.000
MAXIMUM	7.000	SUM	446.000		
VALID CASES	85	MISSING CASES	20		

Figure G-11 Reported gross family income: Mothers

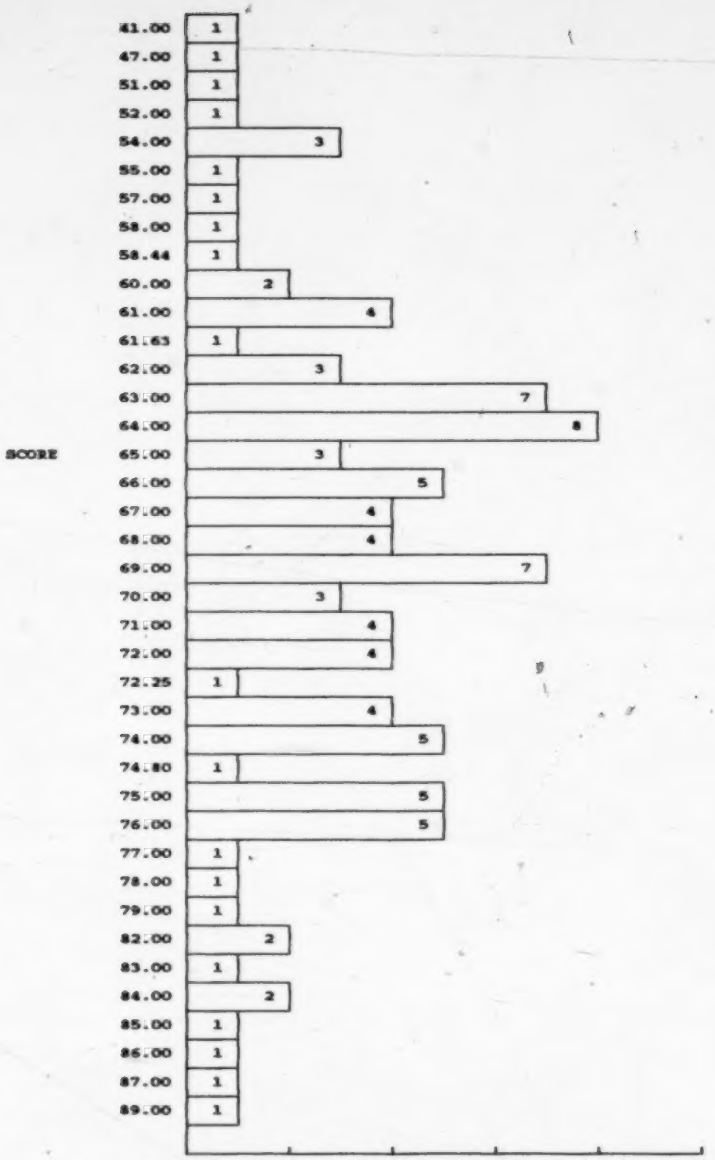


MEAN	5.241	STD ERR	.177	MEDIAN	5.000
MODE	7.000	STD DEV	1.612	VARIANCE	2.600
KURTOSIS	-1.229	S E KURT	.523	SKEWNESS	-.332
S E SKEW	.264	RANGE	5.000	MINIMUM	2.000
MAXIMUM	7.000	SUM	435.000		
VALID CASES	83	MISSING CASES	22		

Figure G-12 Reported gross family income: Fathers

APPENDIX H:

Barcharts - Parental Sense of Competence Scale



MEAN	68.312	STD ERR	.844	MEDIAN	68.000
MODE	64.000	STD DEV	8.561	VARIANCE	73.288
KURTOSIS	.662	S E KURT	.472	SKEWNESS	-.156
S E SKEW	.238	RANGE	48.000	MINIMUM	41.000
MAXIMUM	89.000	SUM	7036.112		
VALID CASES	103	MISSING CASES	2		

Figure E-1 Parental Sense of Competence scale: Mothers First measurement interval

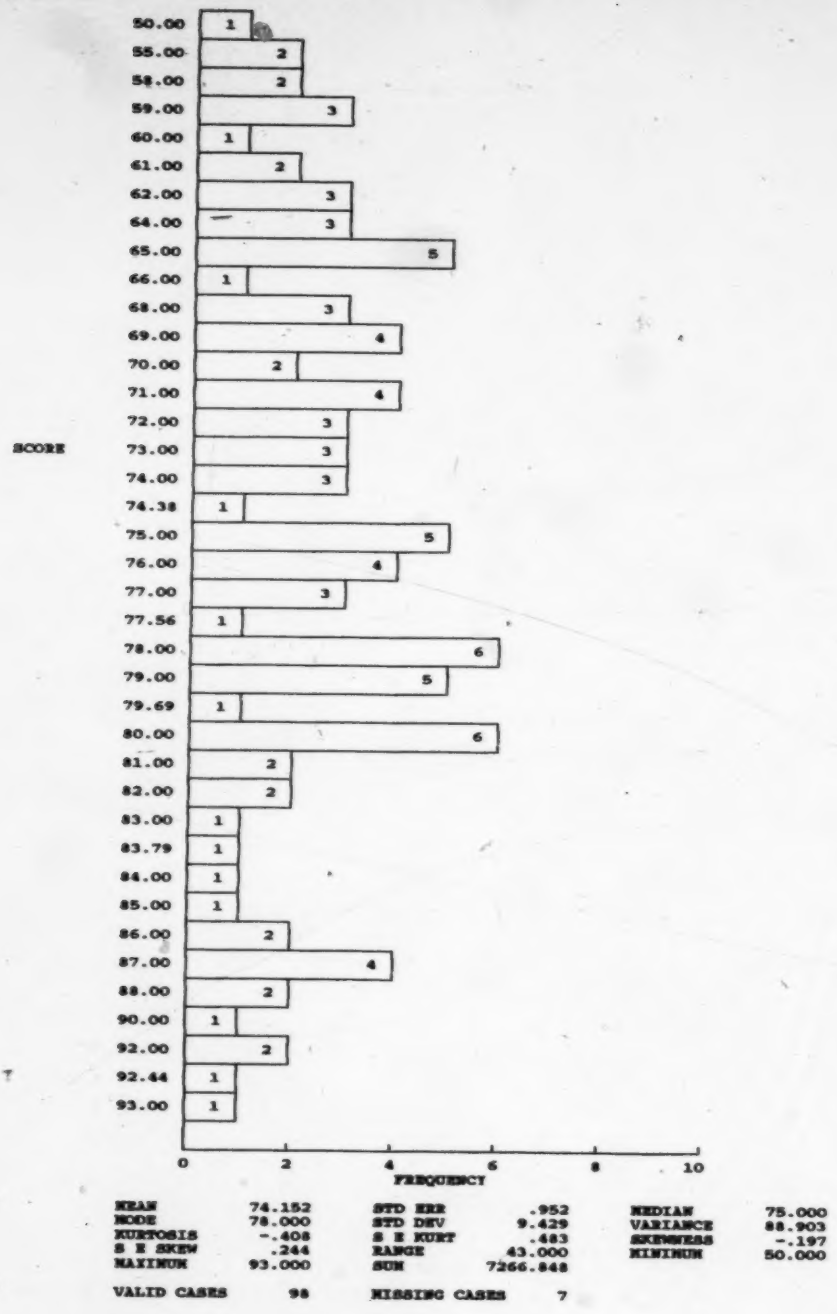
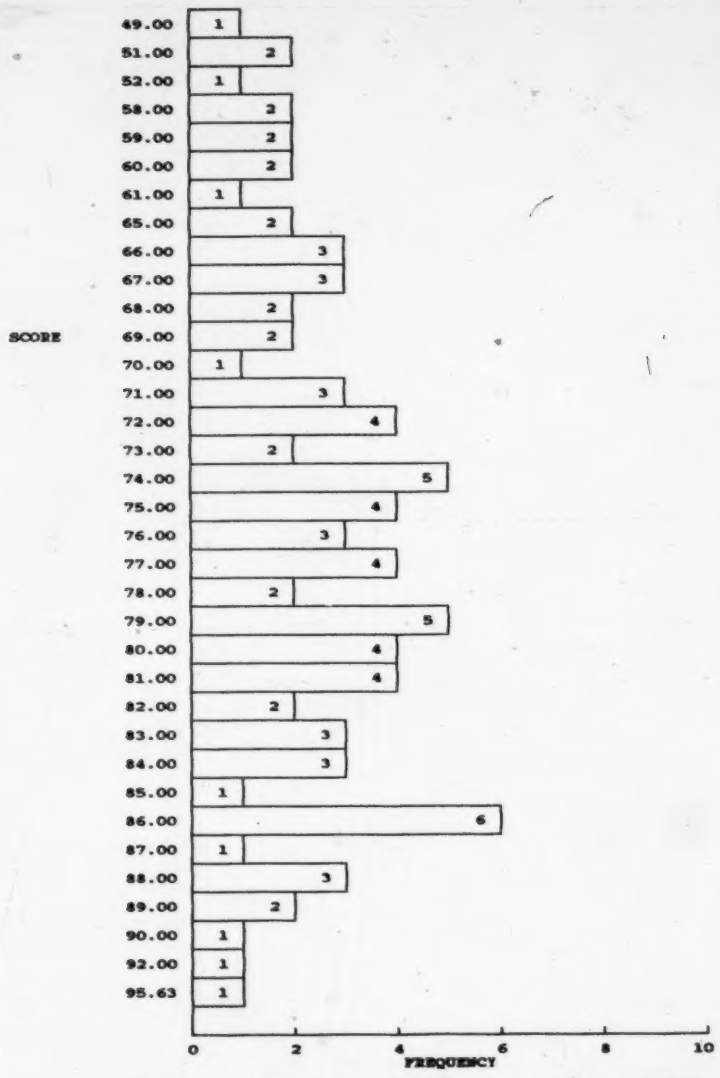


Figure H-2 Parental Sense of Competence scale: Mothers Second measurement interval.



MEAN	75.132	STD ERR	1.067	MEDIAN	76.000
MODE	86.000	STD DEV	10.012	VARIANCE	100.240
KURTOSIS	.040	S E KURT	.508	SKEWNESS	-.581
S E SKEW	.257	RANGE	46.625	MINIMUM	49.000
MAXIMUM	95.625	SUM	6611.625		
VALID CASES	88	MISSING CASES	17		

Figure H-3 Parental Sense of Competence scale: Mothers Third measurement interval

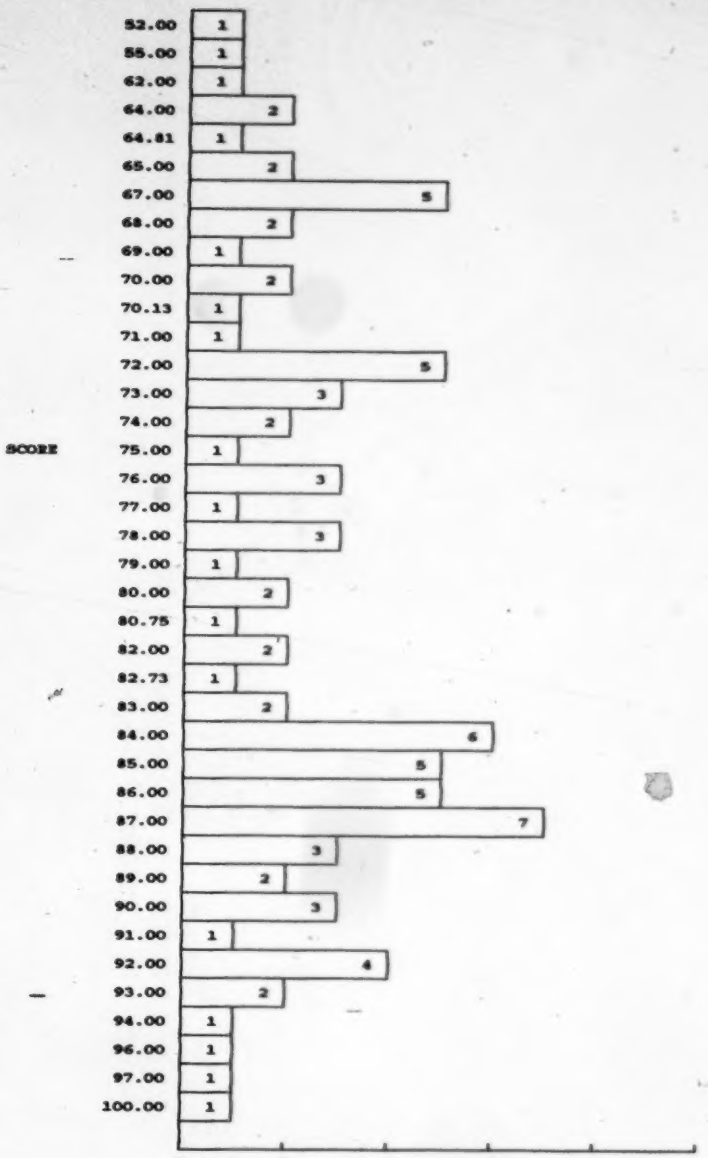
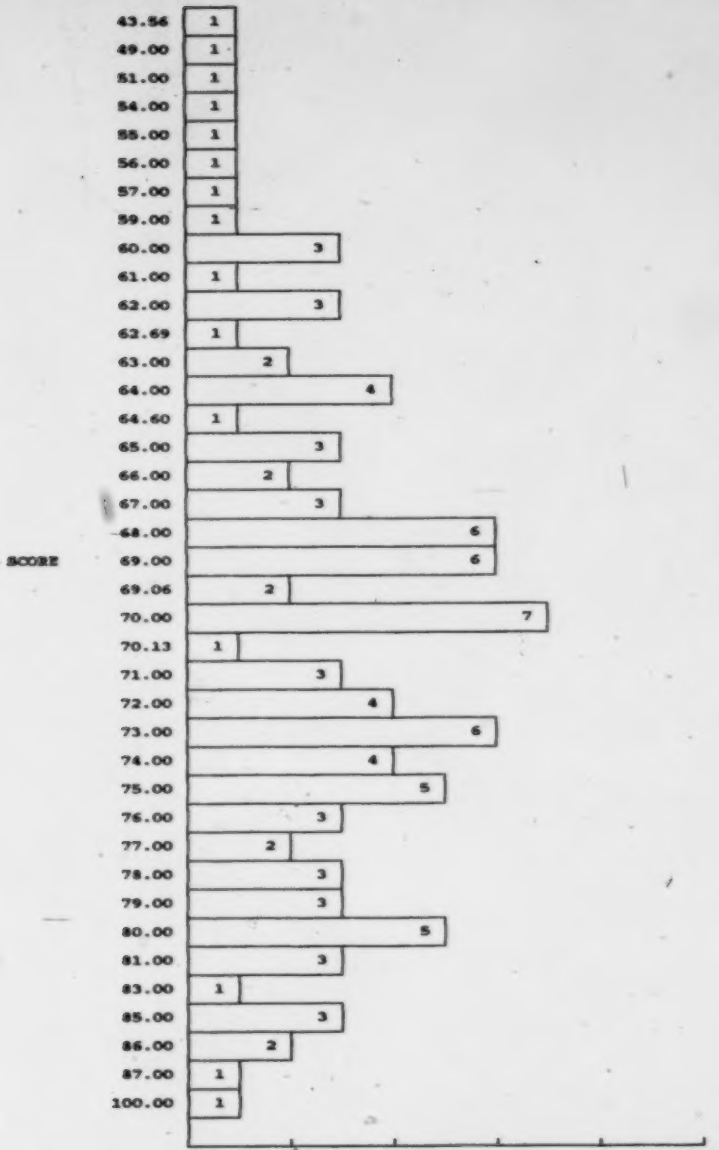


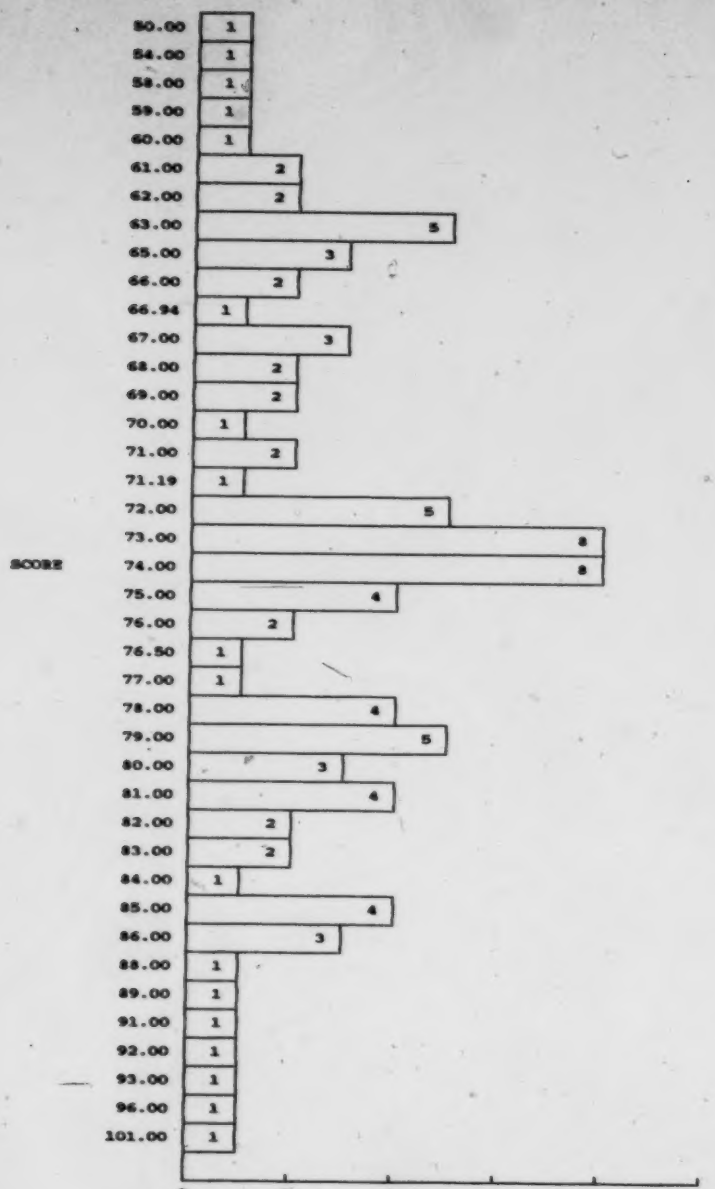
Figure H-4 Parental Sense of Competence scale: Mothers Fourth measurement interval



MEAN	70.707	STD ERR	.870	MEDIAN	70.000
MODE	70.000	STD DEV	8.783	VARIANCE	77.142
KURTOSIS	1.168	S E KURT	.474	SKEWNESS	-.080
S E SKEW	.239	RANGE	56.438	MINIMUM	43.563
MAXIMUM	100.000	SUM	7212.100		
VALID CASES	102	MISSING CASES	3		

Figure F-5 Parental Sense of Competence scale: Fathers

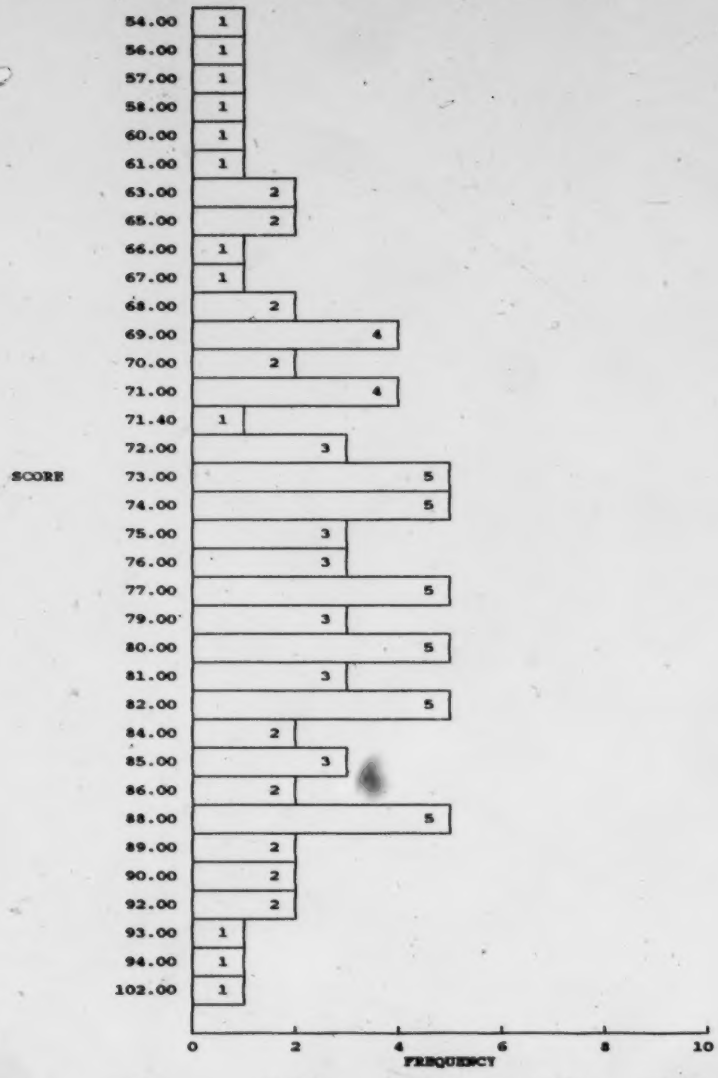
First measurement interval



MEAN	74.407	STD ERR	.950	MEDIAN	74.000
MODE	73.000	STD DEV	9.261	VARIANCE	85.770
KURTOSIS	.263	S E KURT	.490	SKEWNESS	.125
S E SKEW	.247	RANGE	51.000	MINIMUM	50.000
MAXIMUM	101.000	SUM	7068.625		
VALID CASES	95	MISSING CASES	10		

Figure H-6 Parental Sense of Competence scale: Fathers

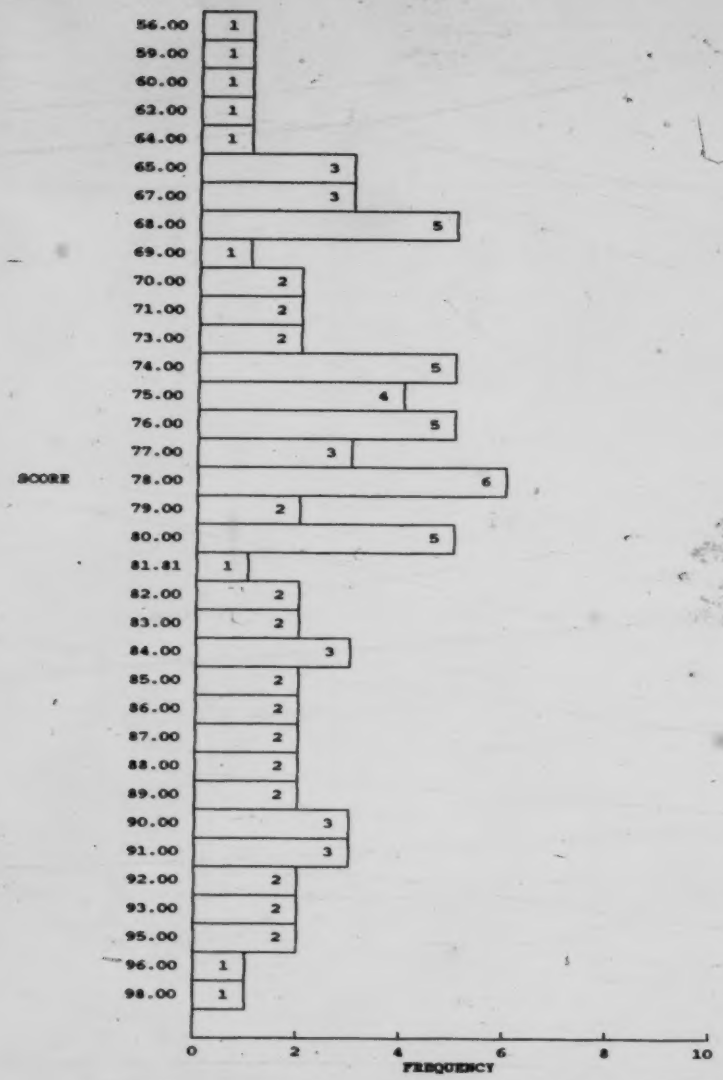
Second measurement interval



MEAN	76.598	STD ERR	1.020	MEDIAN	76.000
MODE	73.000	STD DEV	9.457	VARIANCE	89.440
KURTOSIS	-.054	S E KURT	.514	SKEWNESS	-.042
S E SKEW	.260	RANGE	48.000	MINIMUM	54.000
MAXIMUM	102.000	SUM	6587.400		
VALID CASES	86	MISSING CASES	19		

Figure H-7 Parental Sense of Competence scale: Fathers

Third measurement interval



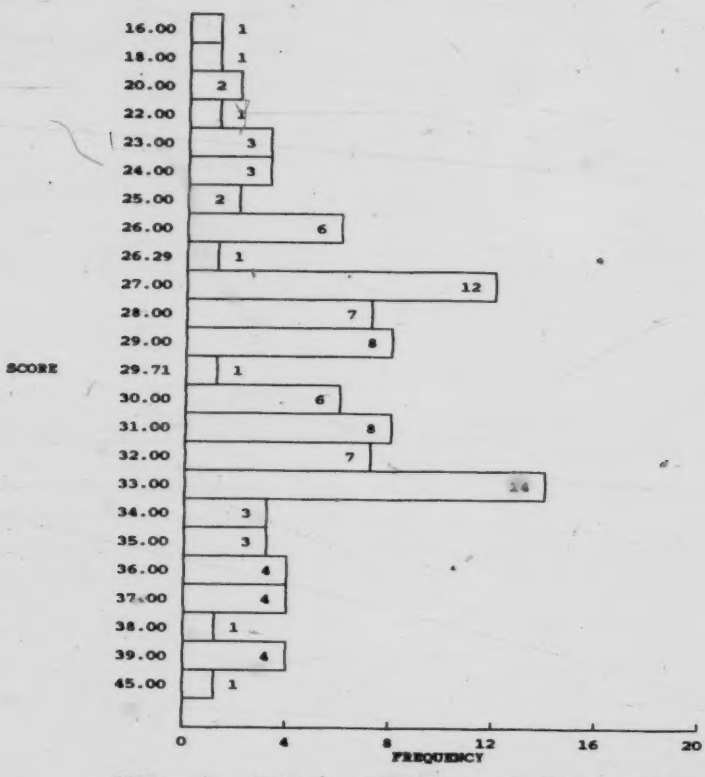
MEAN	78.492	STD ERR	1.032	MEDIAN	78.000
MODE	78.000	STD DEV	9.516	VARIANCE	90.547
KURTOSIS	-.698	S E KURT	.517	SKEWNESS	-.050
S E SKEW	.261	RANGE	42.000	MINIMUM	56.000
MAXIMUM	98.000	SUM	6671.813		
VALID CASES	85	MISSING CASES	20		

Figure H-8 Parental Sense of Competence scale: Fathers

Fourth measurement interval

APPENDIX I:

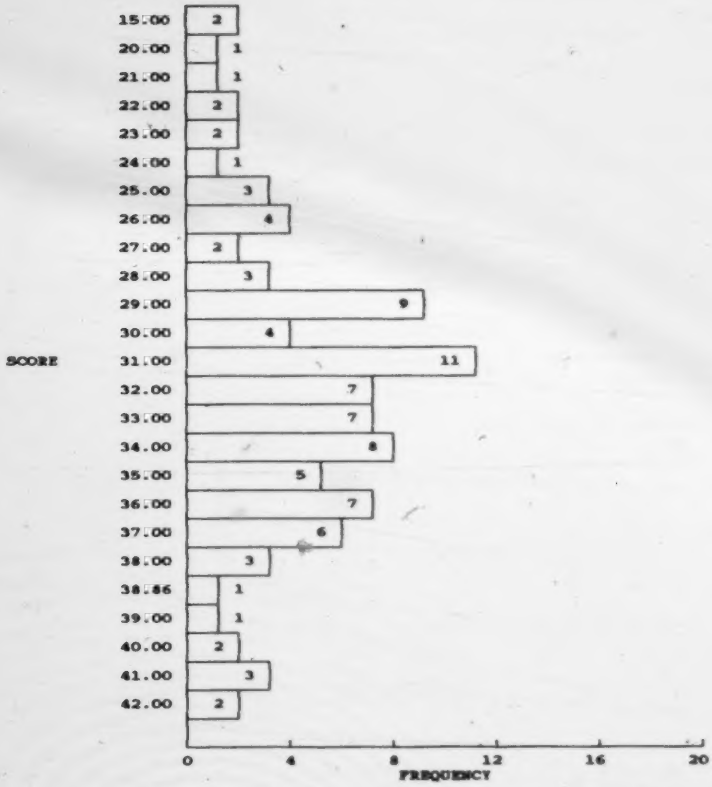
Barcharts - Skill/Knowledge Subscales



MEAN	30.126	STD ERR	.478	MEDIAN	30.000
MODE	33.000	STD DEV	4.850	VARIANCE	23.522
KURTOSIS	.633	S E KURT	.472	SKEWNESS	-.052
S E SKEW	.238	RANGE	29.000	MINIMUM	16.000
MAXIMUM	45.000	SUM	3103.000		
VALID CASES	103	MISSING CASES	2		

Figure I-1 Skill/Knowledge subscale: Mothers

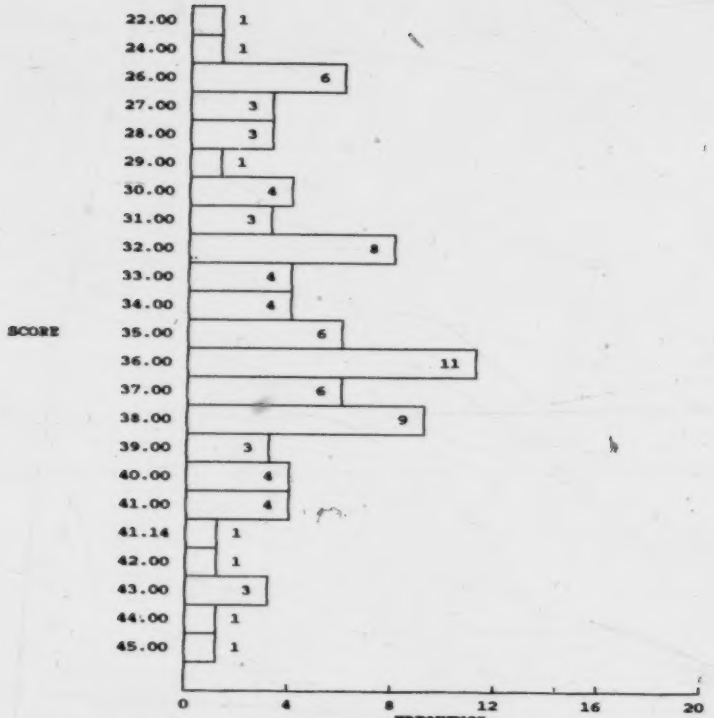
First measurement interval



MEAN	31.741	STD ERR	.556	MEDIAN	32.000
MODE	31.000	STD DEV	5.478	VARIANCE	30.005
KURTOSIS	.679	S E KURT	.485	SKEWNESS	-.602
S E SKEW	.245	RANGE	27.000	MINIMUM	15.000
MAXIMUM	42.000	SUM	3078.857		
VALID CASES	97	MISSING CASES	8		

Figure I-2 Skill/Knowledge subscale: Mothers

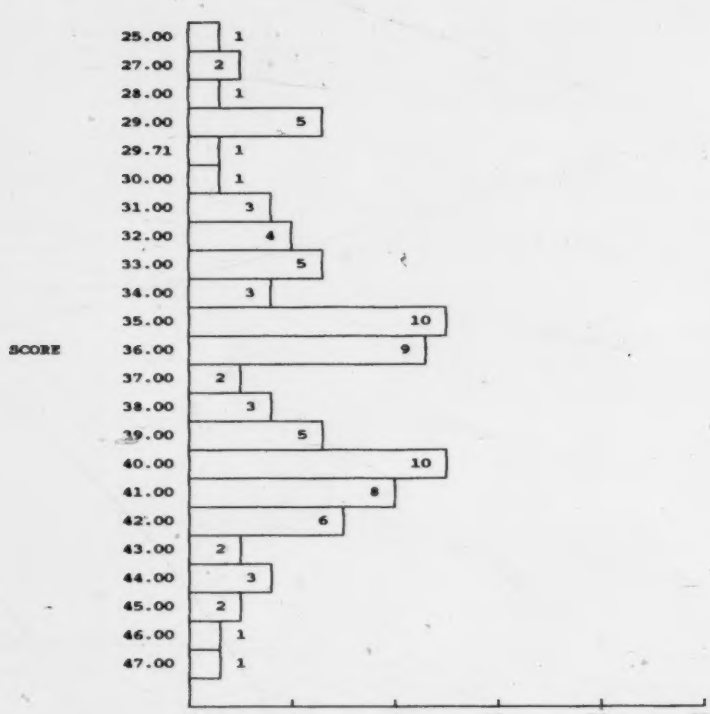
Second measurement interval



MEAN	34.604	STD ERR	.542	MEDIAN	35.500
MODE	36.000	STD DEV	5.080	VARIANCE	25.804
KURTOSIS	-.479	S E KURT	.508	SKEWNESS	-.292
S E SKEW	.257	RANGE	23.000	MINIMUM	22.000
MAXIMUM	45.000	SUM	3045.143		
VALID CASES	88	MISSING CASES	17		

Figure I-3 Skill/Knowledge subscale: Mothers

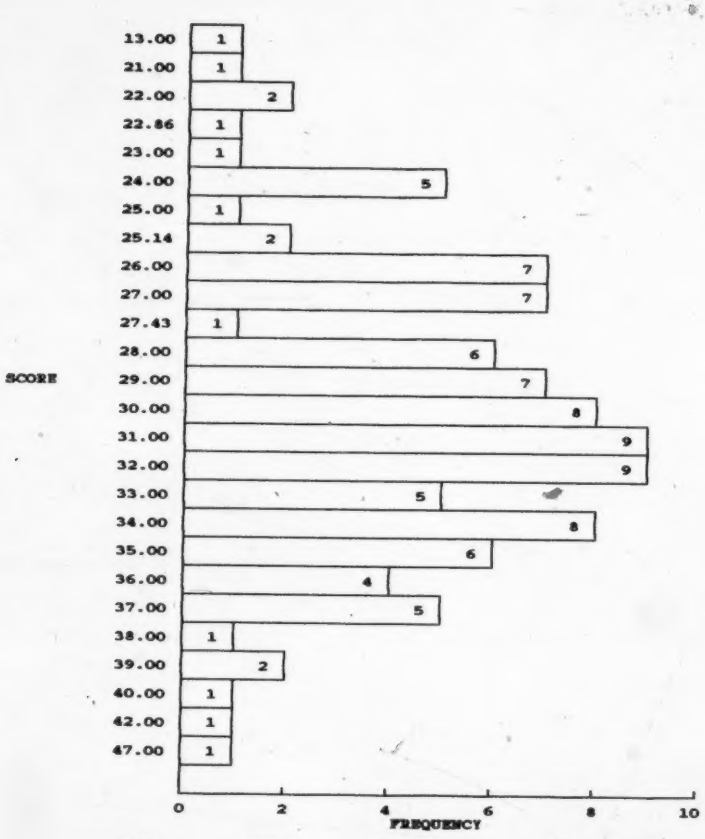
Third measurement interval



MEAN	36.792	STD ERR	.527	MEDIAN	36.000
MODE	35.000	STD DEV	4.944	VARIANCE	24.440
KURTOSIS	-.635	S E KURT	.508	SKEWNESS	-.221
S E SKEW	.257	RANGE	22.000	MINIMUM	25.000
MAXIMUM	47.000	SUM	3237.714		
VALID CASES	88	MISSING CASES	17		

Figure I-4 Skill/Knowledge subscale: Mothers

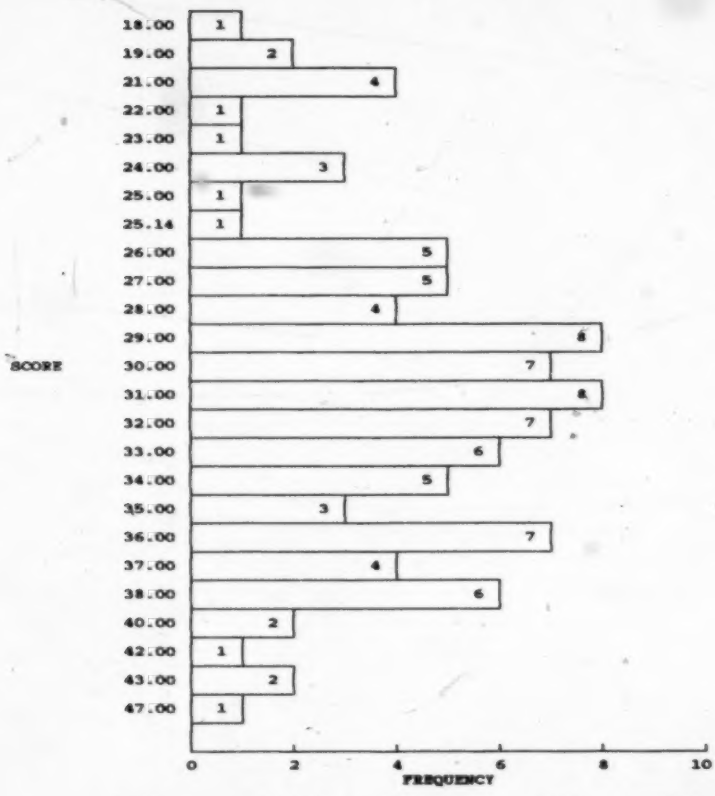
Fourth measurement interval



MEAN	30.555	STD ERR	.497	MEDIAN	31.000
MODE	31.000	STD DEV	5.022	VARIANCE	25.222
KURTOSIS	1.278	S E KURT	.474	SKEWNESS	-.008
S E SKEW	.239	RANGE	34.000	MINIMUM	13.000
MAXIMUM	47.000	SUM	3116.571		
VALID CASES	102	MISSING CASES	3		

Figure I-5 Skill/Knowledge subscale: Fathers

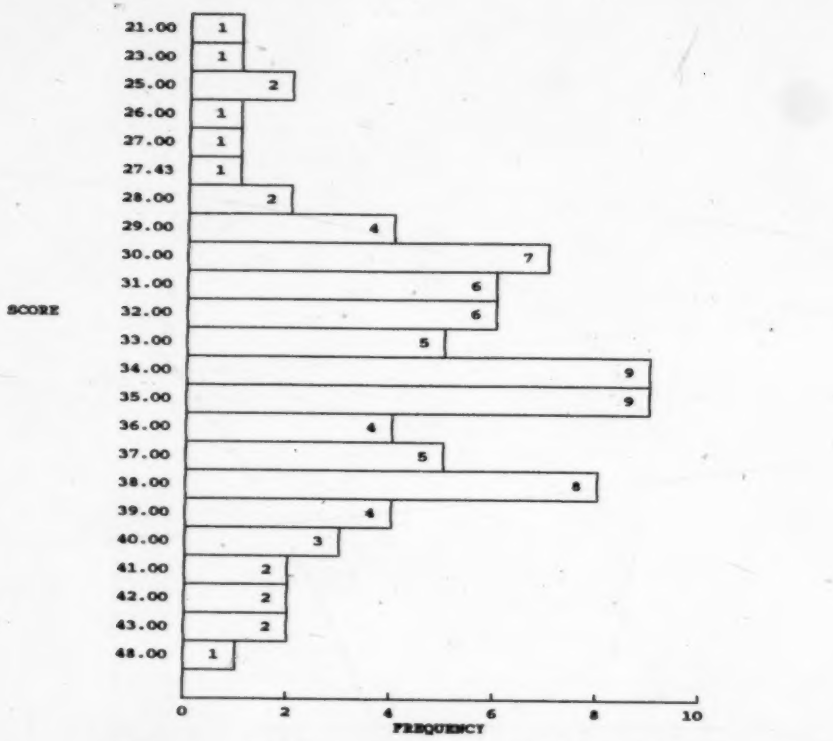
First measurement interval



MEAN	31.096	STD ERR	.586	MEDIAN	31.000
MODE	29.000	STD DEV	5.708	VARIANCE	32.579
KURTOSIS	.054	S E KURT	.490	SKEWNESS	.010
S E SKEW	.247	RANGE	29.000	MINIMUM	18.000
MAXIMUM	47.000	SUM	2954.143		
VALID CASES	95	MISSING CASES	10		

Figure I-6 Skill/Knowledge subscale: Fathers

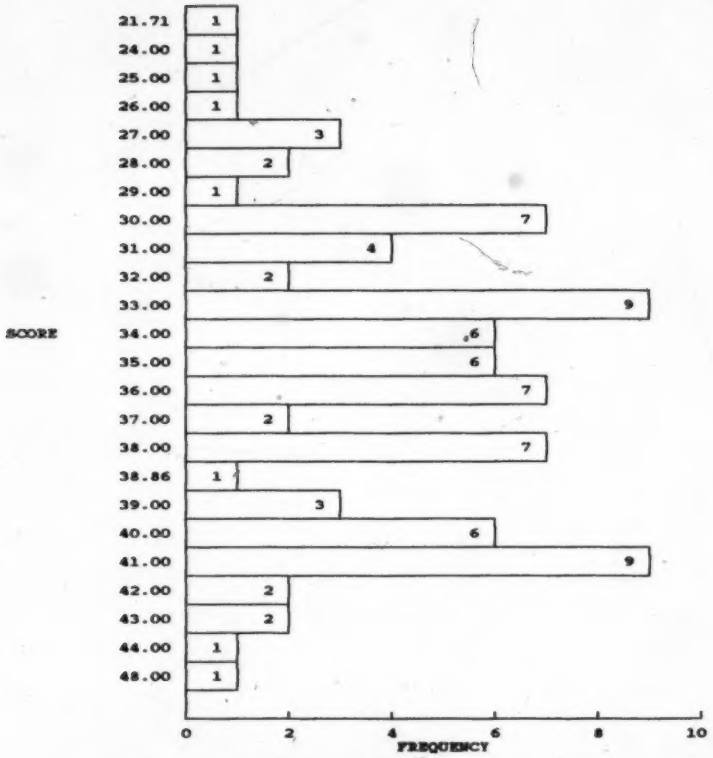
Second measurement interval



MEAN	34.063	STD ERR	.518	MEDIAN	34.000
MODE	34.000	STD DEV	4.808	VARIANCE	23.116
KURTOSIS	.332	S E KURT	.514	SKEWNESS	-.037
S E SKEW	.260	RANGE	27.000	MINIMUM	21.000
MAXIMUM	48.000	SUM	2929.429		
VALID CASES	86	MISSING CASES	19		

Figure I-7 Skill/Knowledge subscale: Fathers

Third measurement interval



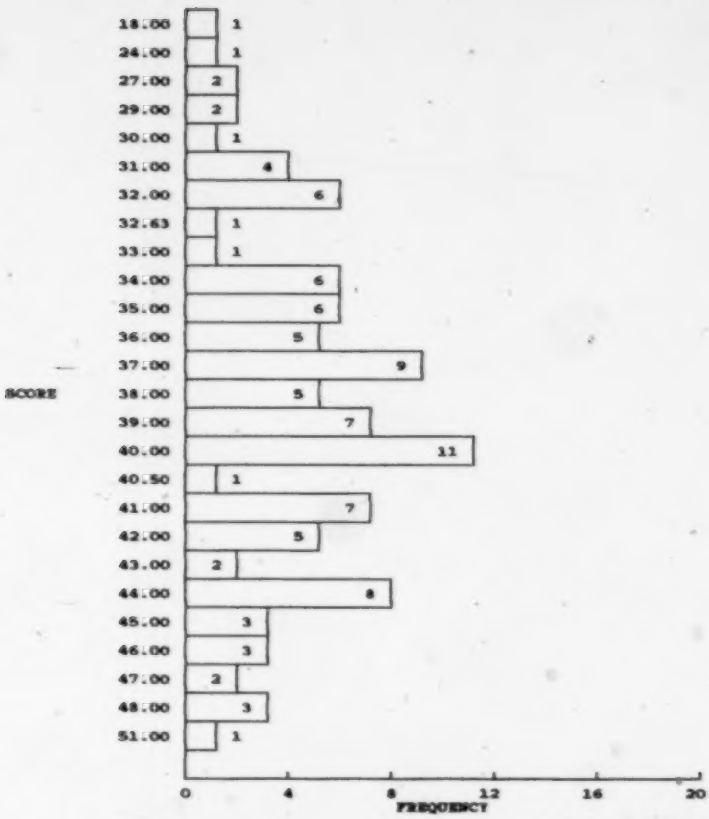
MEAN	35.183	STD ERR	.554	MEDIAN	35.000
MODE	33.000	STD DEV	5.108	VARIANCE	26.090
KURTOSIS	-.236	S E KURT	.517	SKEWNESS	-.231
S E SKEW	.261	RANGE	26.286	MINIMUM	21.714
MAXIMUM	48.000	SUM	2990.571		
VALID CASES	85	MISSING CASES	20		

Figure I-8 Skill/Knowledge subscale: Fathers

Fourth measurement interval

APPENDIX J:

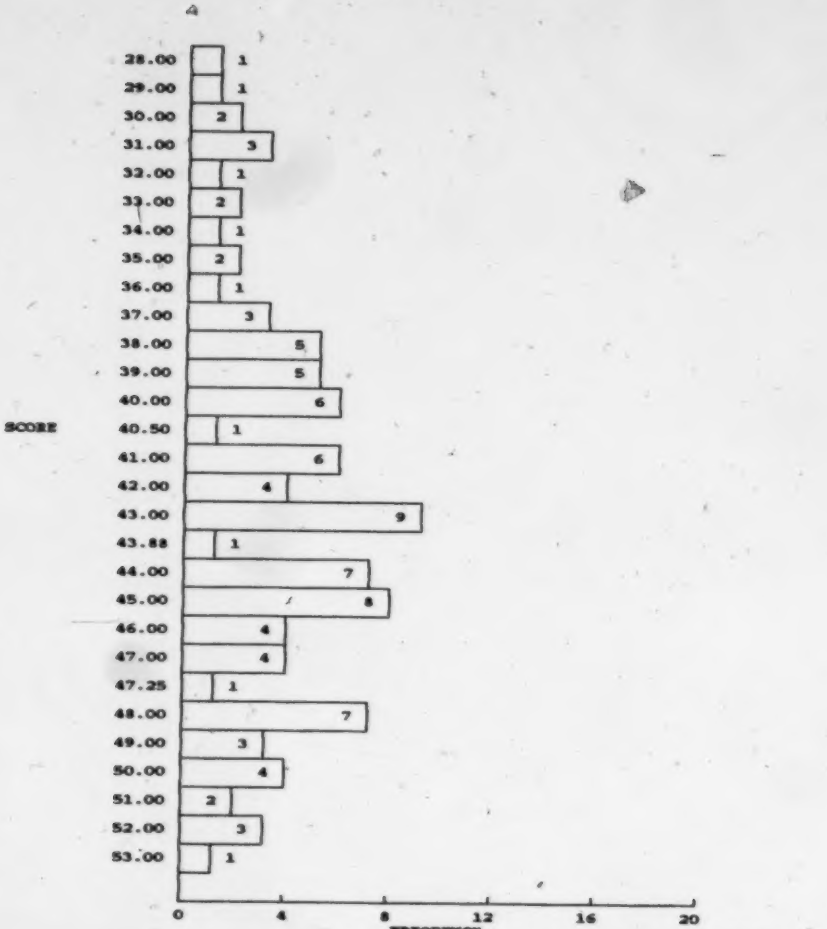
Barcharts - Value Comfort Subscales



MEAN	38.186	STD ERR	.553	MEDIAN	39.000
MODE	40.000	STD DEV	5.613	VARIANCE	31.506
KURTOSIS	.855	S E KURT	.472	SKEWNESS	-.503
S E SKEW	.238	RANGE	33.000	MINIMUM	18.000
MAXIMUM	51.000	SUM	3933.125		
VALID CASES	103	MISSING CASES	2		

Figure J-1 Value/Comfort subscale: Mothers

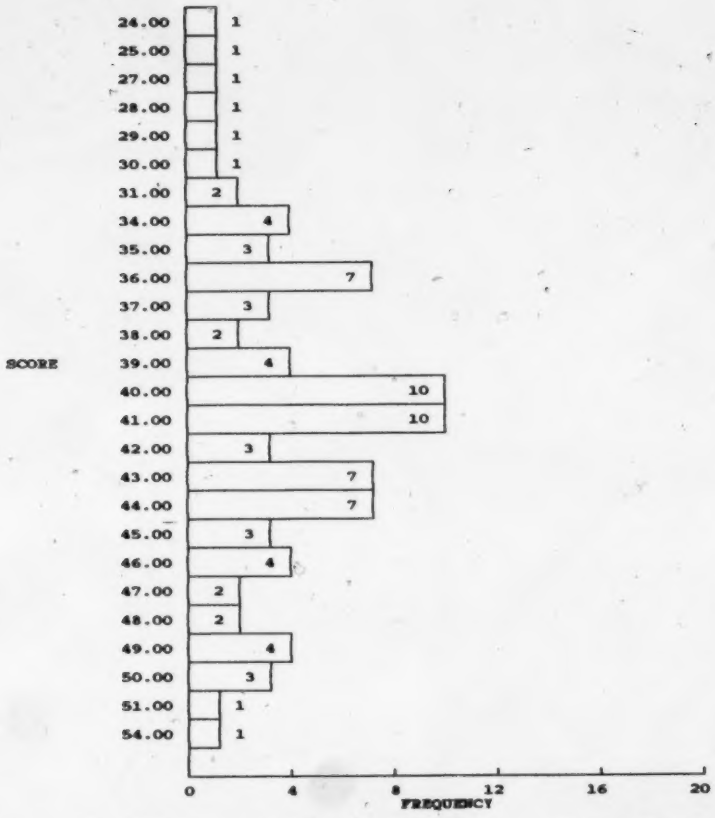
First measurement interval



MEAN	42.353	STD ERR	.584	MEDIAN	43.000
MODE	43.000	STD DEV	5.778	VARIANCE	33.382
KURTOSIS	-.190	S E KURT	.483	SKEWNESS	-.492
S E SKEW	.244	RANGE	25.000	MINIMUM	28.000
MAXIMUM	53.000	SUM	4150.625		
VALID CASES	98	MISSING CASES	7		

Figure J-2 Value/Comfort subscale: Mothers

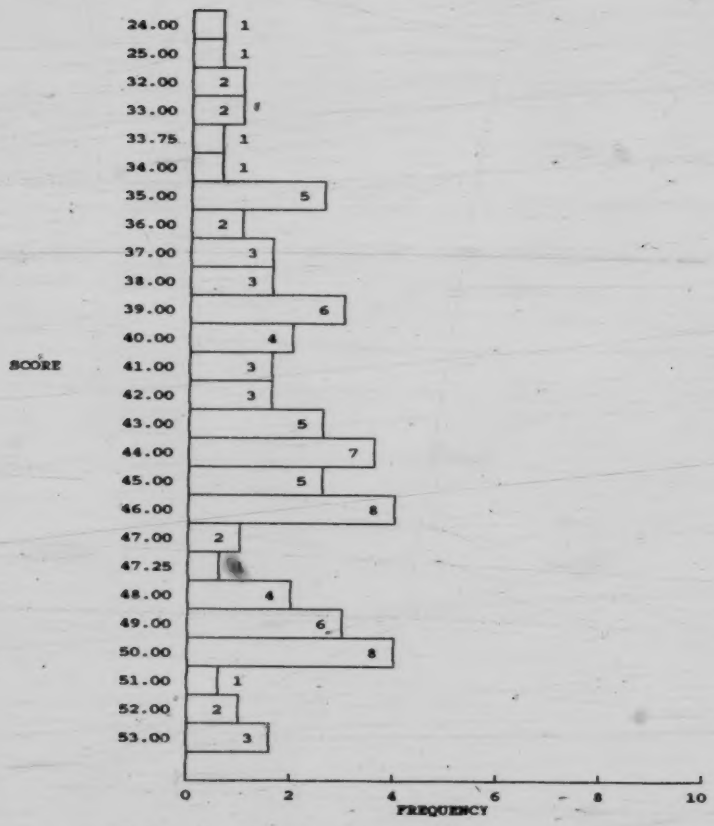
Second measurement interval



MEAN	40.523	STD ERR	.637	MEDIAN	41.000
MODE	40.000	STD DEV	5.975	VARIANCE	35.701
KURTOSIS	.336	S E KURT	.508	SKEWNESS	-.455
S E SKEW	.257	RANGE	30.000	MINIMUM	24.000
MAXIMUM	54.000	SUM	3566.000		
VALID CASES	88	MISSING CASES	17		

Figure J-3 Value/Comfort subscale: Mothers

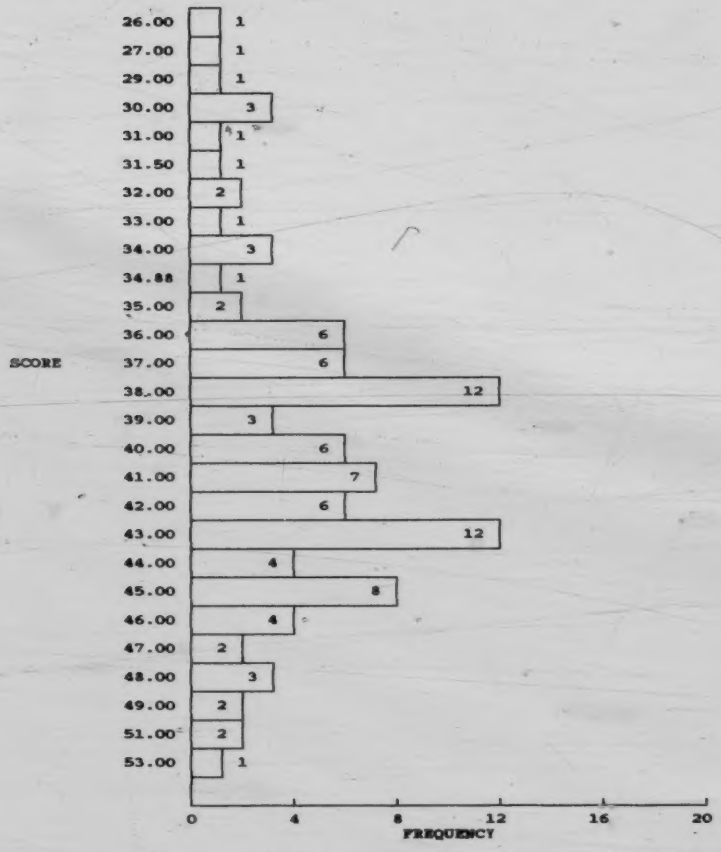
Third measurement interval



MEAN	42.910	STD ERR	.661	MEDIAN	44.000
MODE	46.000	STD DEV	6.238	VARIANCE	38.908
KURTOSIS	.149	S E KURT	.506	SKEWNESS	-.611
S E SKEW	.255	RANGE	29.000	MINIMUM	24.000
MAXIMUM	53.000	SUM	3819.000		
VALID CASES	89	MISSING CASES	16		

Figure J-4 Value/Comfort subscale: Mothers

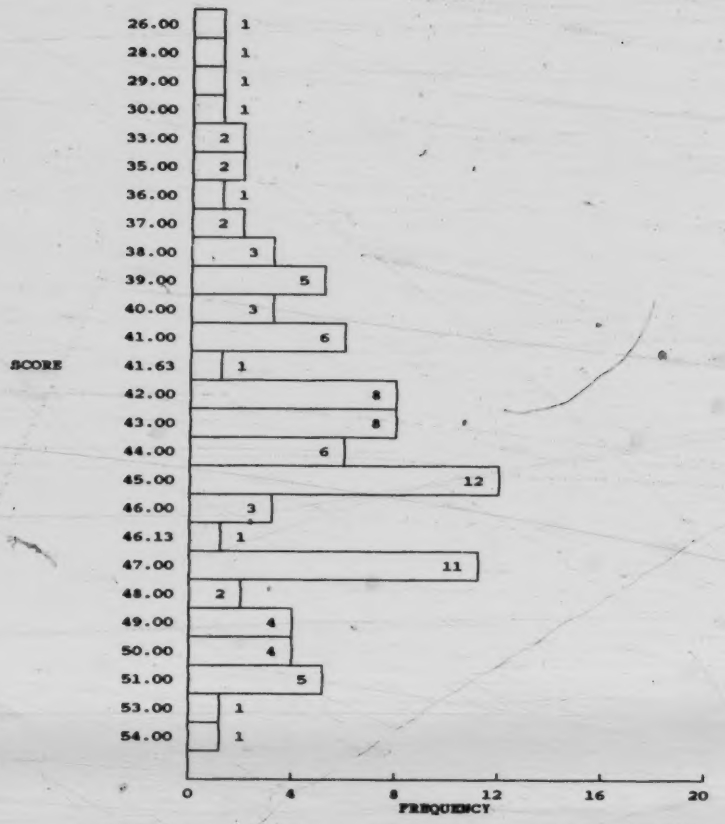
Fourth measurement interval



MEAN	40.152	STD ERR	.537	MEDIAN	41.000
MODE	38.000	STD DEV	5.394	VARIANCE	29.092
KURTOSIS	-.026	S E KURT	.476	SKEWNESS	-.257
S E SKEW	.240	RANGE	27.000	MINIMUM	26.000
MAXIMUM	53.000	SUM	4055.375		
VALID CASES	101	MISSING CASES	4		

Figure J-5 Value/Comfort subscale: Fathers

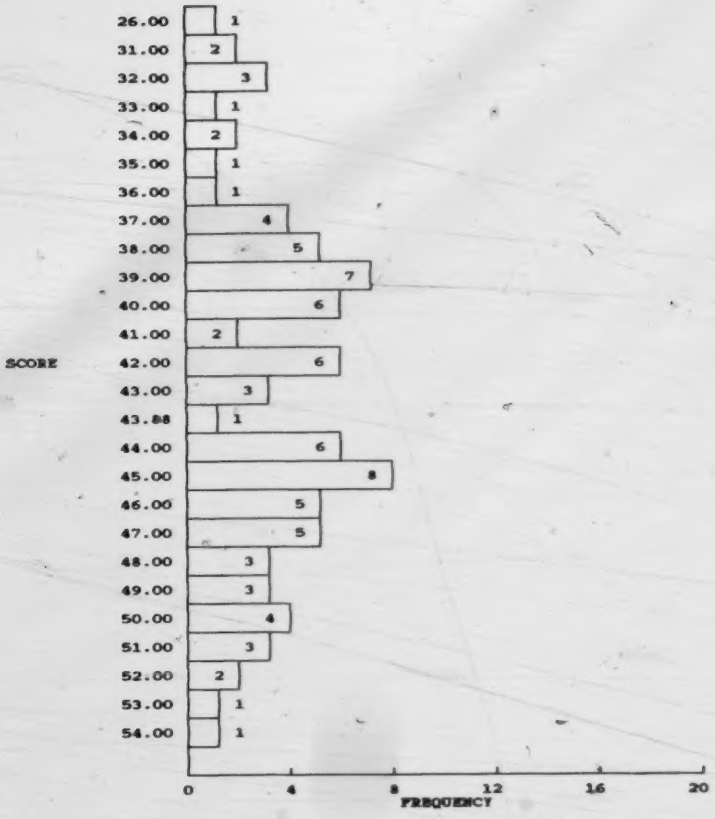
First measurement interval



MEAN	43.313	STD ERR	.553	MEDIAN	44.000
MODE	45.000	STD DEV	5.391	VARIANCE	29.067
KURTOSIS	1.142	S E KURT	.490	SKEWNESS	-.842
S E SKEW	.247	RANGE	28.000	MINIMUM	26.000
MAXIMUM	54.000	SUM	4114.750		
VALID CASES	95	MISSING CASES	10		

Figure J-6 Value/Comfort subscale: Fathers

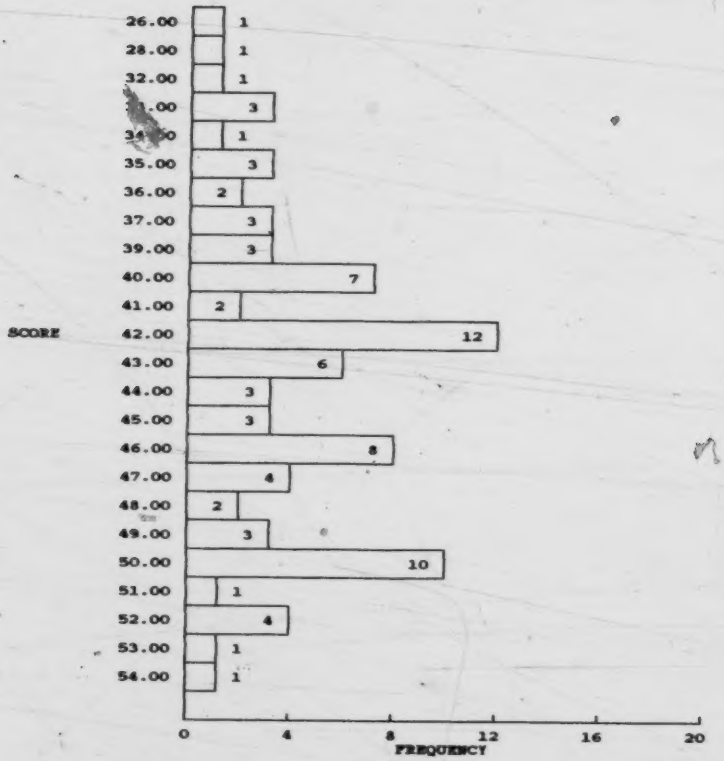
Second measurement interval



MEAN	42.533	STD ERR	.626	MEDIAN	43.000
MODE	45.000	STD DEV	5.804	VARIANCE	33.683
KURTOSIS	-.190	S E KURT	.514	SKEWNESS	-.341
S E SKEW	.260	RANGE	28.000	MINIMUM	26.000
MAXIMUM	54.000	SUM	3657.875		
VALID CASES	86	MISSING CASES	19		

Figure J-7 Value/Comfort subscale: Fathers

Third measurement interval



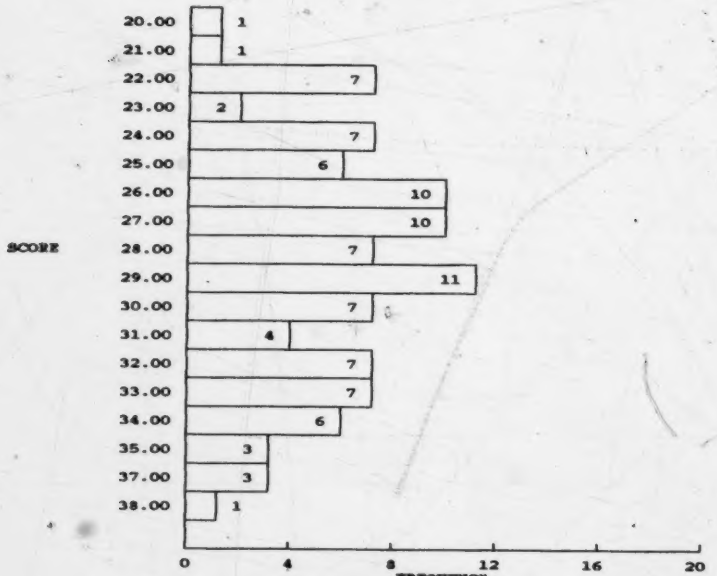
MEAN	43.294	STD ERR	.642	MEDIAN	43.000
MODE	42.000	STD DEV	5.922	VARIANCE	35.067
KURTOSIS	.032	S E KURT	.517	SKEWNESS	-.507
S E SKEW	.261	RANGE	28.000	MINIMUM	26.000
MAXIMUM	54.000	SUM	3680.000		
VALID CASES	85	MISSING CASES	20		

Figure J-8 Value/Comfort subscale: Fathers

Fourth measurement interval

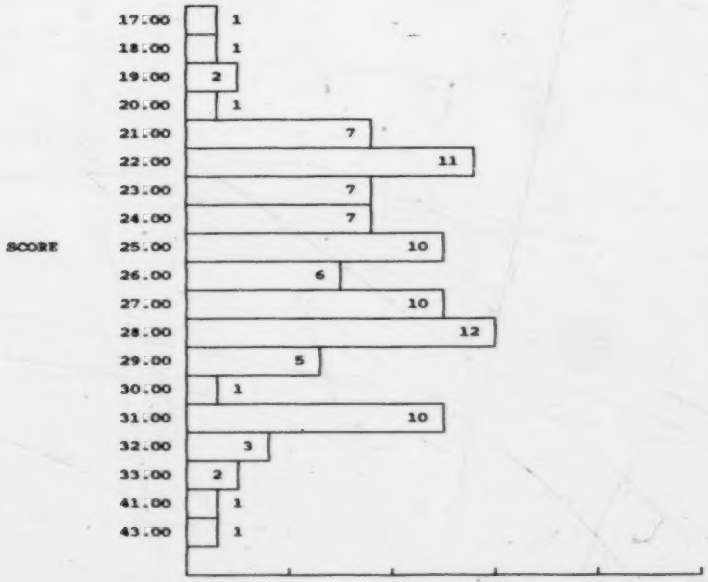
APPENDIX K:

Barcharts - Baby Characteristics Scales



MEAN	28.510	STD ERR	.411	MEDIAN	28.000
MODE	29.000	STD DEV	4.111	VARIANCE	16.899
KURTOSIS	-.626	S E KURT	.478	SKEWNESS	.166
S E SKEW	.241	RANGE	18.000	MINIMUM	20.000
MAXIMUM	38.000	SUM	2851.000		
VALID CASES	100	MISSING CASES	5		

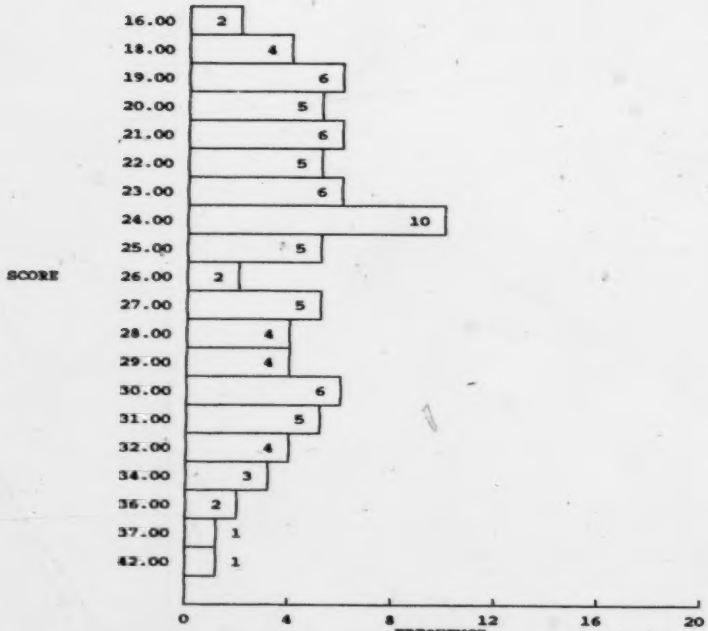
Figure K-1 Baby Characteristics scale: Mothers First measurement interval



MEAN	26.061	STD ERR	.438	MEDIAN	26.000
MODE	28.000	STD DEV	4.331	VARIANCE	18.759
KURTOSIS	2.292	S E KURT	.483	SKEWNESS	.889
S E SKEW	.244	RANGE	26.000	MINIMUM	17.000
MAXIMUM	43.000	SUM	2554.000		
VALID CASES	98	MISSING CASES	7		

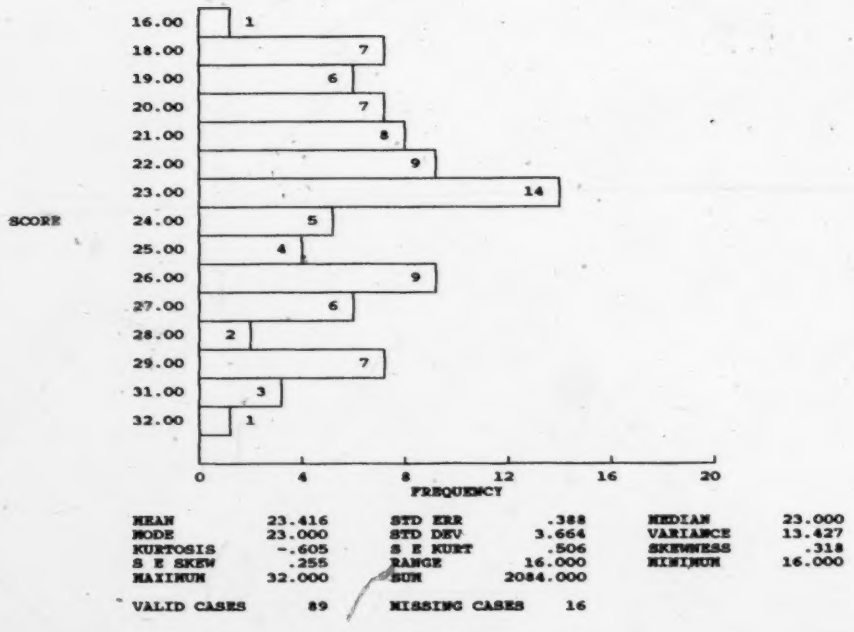
Figure K-2 Baby Characteristics scale: Mothers

Second measurement interval



MEAN	25.442	STD ERR	.576	MEDIAN	24.000
MODE	24.000	STD DEV	5.339	VARIANCE	28.508
KURTOSIS	-.068	S E KURT	.514	SKEWNESS	.518
S E SKEW	.260	RANGE	26.000	MINIMUM	16.000
MAXIMUM	42.000	SUM	2188.000		
VALID CASES	86	MISSING CASES	19		

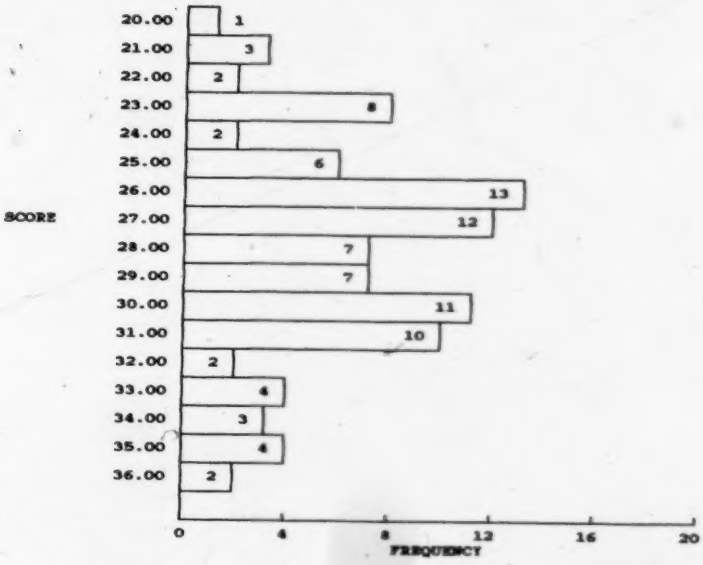
Figure K-3 Baby Characteristics scale: Mothers Third measurement interval



MEAN	23.416	STD ERR	.388	MEDIAN	23.000
MODE	23.000	STD DEV	3.664	VARIANCE	13.427
KURTOSIS	-.605	S E KURT	.506	SKEWNESS	.318
S E SKEW	.255	RANGE	16.000	MINIMUM	16.000
MAXIMUM	32.000	SUM	2084.000		
VALID CASES	89	MISSING CASES	16		

Figure K-4 Baby Characteristics scale: Mothers

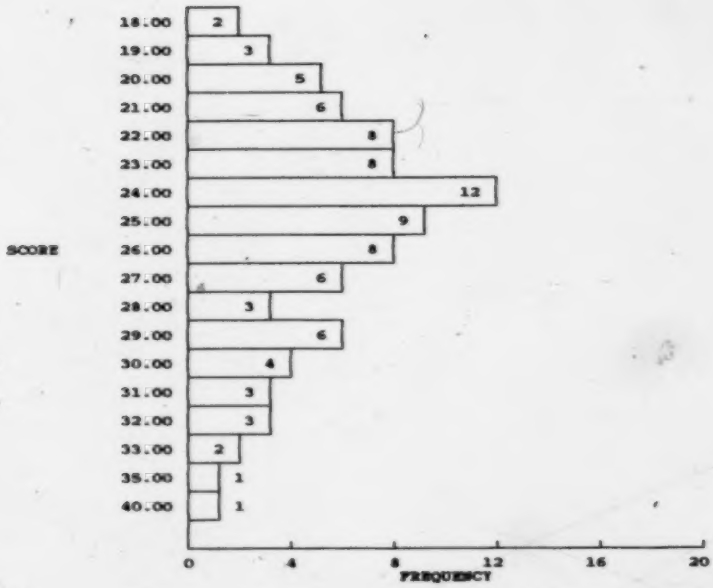
Fourth measurement interval



MEAN	28.041	STD ERR	.379	MEDIAN	28.000
MODE	26.000	STD DEV	3.733	VARIANCE	13.936
KURTOSIS	-.487	S E KURT	.485	SKEWNESS	.101
S E SKEW	.245	RANGE	16.000	MINIMUM	20.000
MAXIMUM	36.000	SUM	2720.000		
VALID CASES	97	MISSING CASES	8		

Figure K-5 Baby Characteristics scale: Fathers

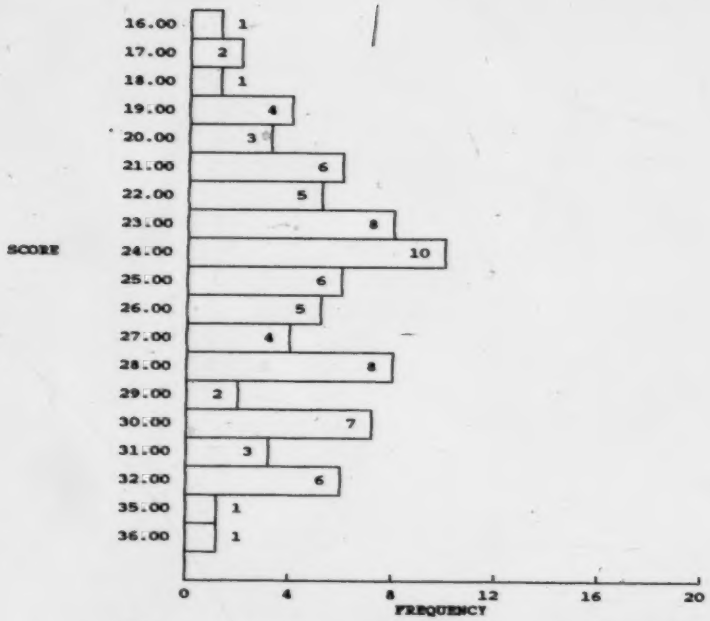
First measurement interval



MEAN	25.222	STD ERR	.433	MEDIAN	25.000
MODE	24.000	STD DEV	4.107	VARIANCE	16.871
KURTOSIS	.866	S E KURT	.503	SKEWNESS	.740
S E SKEW	.254	RANGE	22.000	MINIMUM	18.000
MAXIMUM	40.000	SUM	2270.000		
VALID CASES	90	MISSING CASES	15		

Figure K-6 Baby Characteristecs scale: Fathers

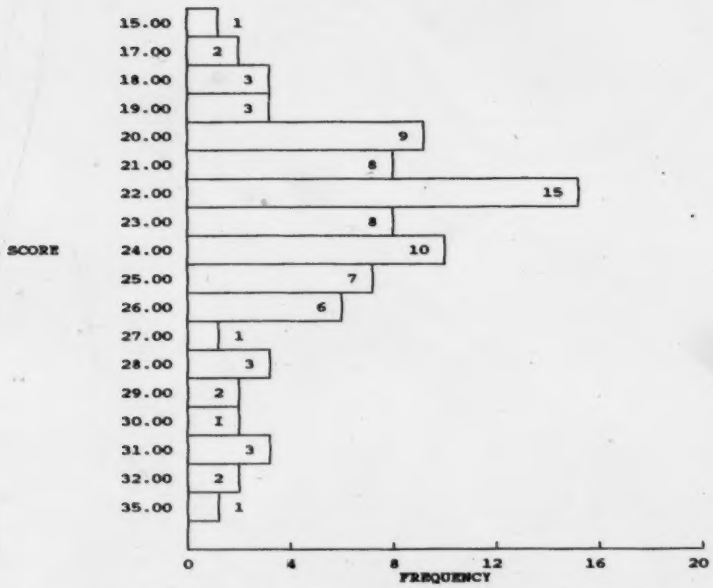
Second measurement interval



MEAN	25.301	STD ERR	.481	MEDIAN	25.000
MODE	24.000	STD DEV	4.383	VARIANCE	19.213
KURTOSIS	-.524	S E KURT	.523	SKEWNESS	.139
S E SKEW	.264	RANGE	20.000	MINIMUM	16.000
MAXIMUM	36.000	SUM	2100.000		
VALID CASES	83	MISSING CASES	22		

Figure K-7 Baby Characteristics scale: Fathers

Third measurement interval



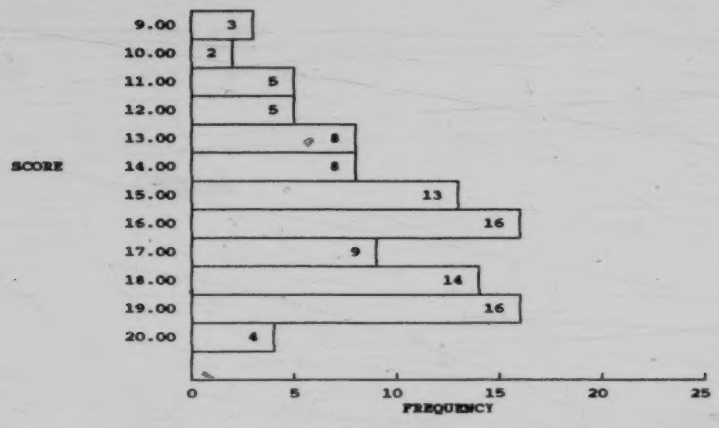
MEAN	23.341	STD ERR	.406	MEDIAN	23.000
MODE	22.000	STD DEV	3.747	VARIANCE	14.037
KURTOSIS	.718	S E KURT	.517	SKEWNESS	.723
S E SKEW	.261	RANGE	20.000	MINIMUM	15.000
MAXIMUM	35.000	SUM	1984.000		
VALID CASES	85	MISSING CASES	20		

Figure K-8 Baby Characteristics scale: Fathers

Fourth measurement interval

APPENDIX L:

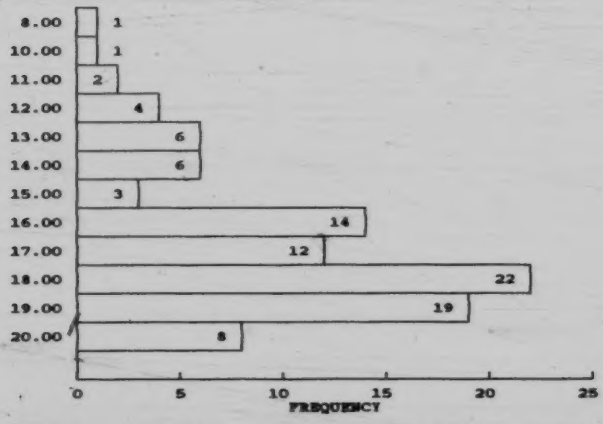
Barcharts - Social Network Support Scales



MEAN	15.709	STD ERR	.277	MEDIAN	16.000
MODE	16.000	STD DEV	2.810	VARIANCE	7.895
KURTOSIS	-.462	S E KURT	.472	SKEWNESS	-.534
S E SKEW	.238	RANGE	11.000	MINIMUM	9.000
MAXIMUM	20.000	SUM	1618.000		
VALID CASES	103	MISSING CASES	2		

Figure L-1 Social Support scale: Mothers

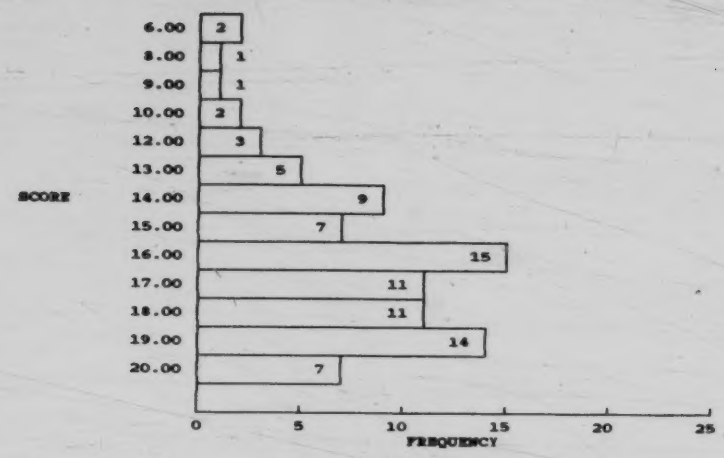
First measurement interval



MEAN	16.735	STD ERR	.260	MEDIAN	17.500
MODE	18.000	STD DEV	2.571	VARIANCE	6.609
KURTOSIS	.684	S E KURT	.483	SKEWNESS	-1.044
S E SKEW	.244	RANGE	12.000	MINIMUM	8.000
MAXIMUM	20.000	SUM	1640.000		
VALID CASES	98	MISSING CASES	7		

Figure L-2 Social Support scale: Mothers

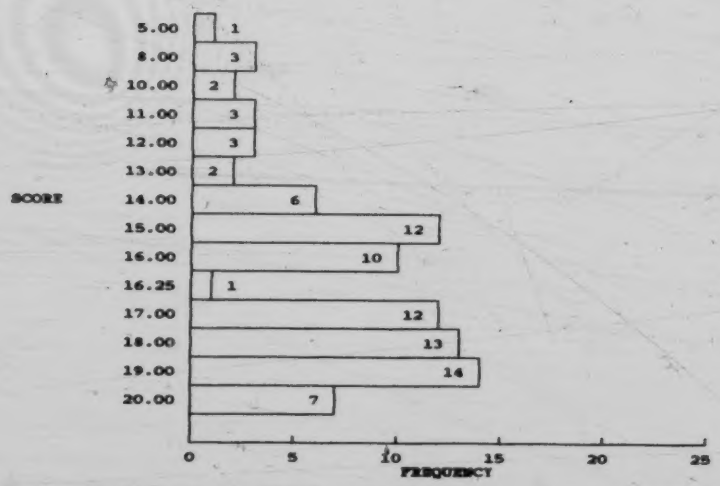
Second measurement interval



MEAN	16.045	STD ERR	.326	MEDIAN	16.000
MODE	16.000	STD DEV	3.054	VARIANCE	9.354
KURTOSIS	1.684	S E KURT	.508	SKEWNESS	-1.184
S E SKEW	.257	RANGE	14.000	MINIMUM	6.000
MAXIMUM	20.000	SUM	1412.000		
VALID CASES	88	MISSING CASES	17		

Figure L-3 Social Support scale: Mothers

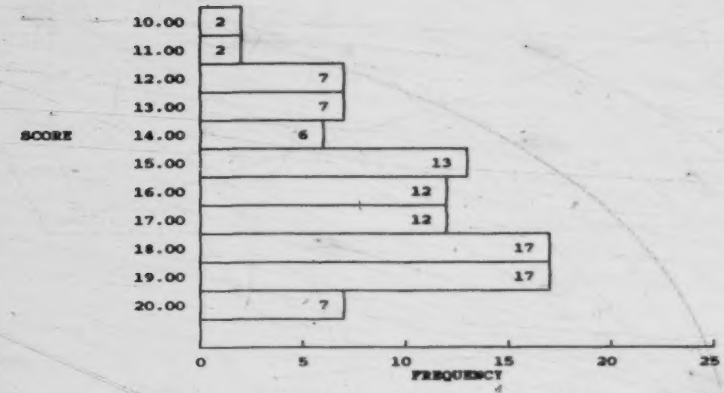
Third measurement interval



MEAN	16.048	STD ERR	.332	MEDIAN	17.000
MODE	19.000	STD DEV	3.133	VARIANCE	9.817
KURTOSIS	1.461	S E KURT	.506	SKEWNESS	-1.195
S E SKEW	.255	RANGE	15.000	MINIMUM	5.000
MAXIMUM	20.000	SUM	1428.250		
VALID CASES	89	MISSING CASES	16		

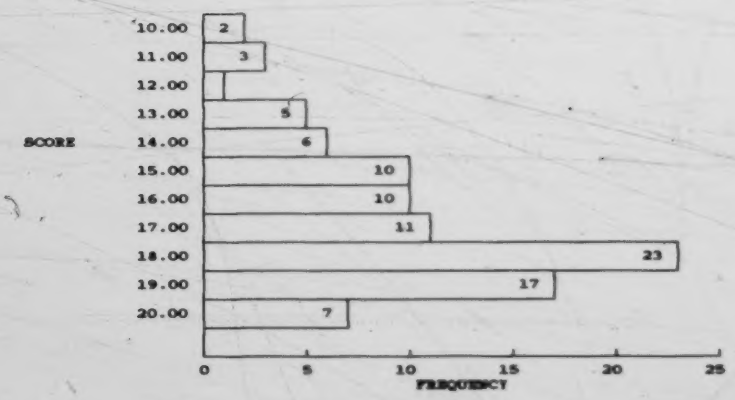
Figure L-4 Social Support scale: Mothers

Fourth measurement interval



MEAN	16.284	STD ERR	.255	MEDIAN	17.000
MODE	18.000	STD DEV	2.577	VARIANCE	6.641
KURTOSIS	-.599	S E KURT	.474	SKEWNESS	-.531
S E SKEW	.239	RANGE	10.000	MINIMUM	10.000
MAXIMUM	20.000	SUM	1661.000		
VALID CASES	102	MISSING CASES	3		

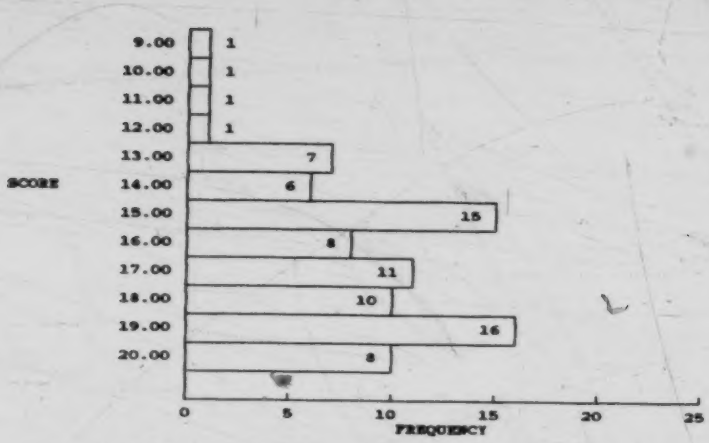
Figure L-5 Social Support scale: Fathers
First measurement interval



MEAN	16.716	STD ERR	.251	MEDIAN	17.000
MODE	18.000	STD DEV	2.444	VARIANCE	5.972
KURTOSIS	.232	S E KURT	.490	SKEWNESS	-.895
S E SKEW	.247	RANGE	10.000	MINIMUM	10.000
MAXIMUM	20.000	SUM	1588.000		
VALID CASES	95	MISSING CASES	10		

Figure L-6 Social Support scale: Fathers

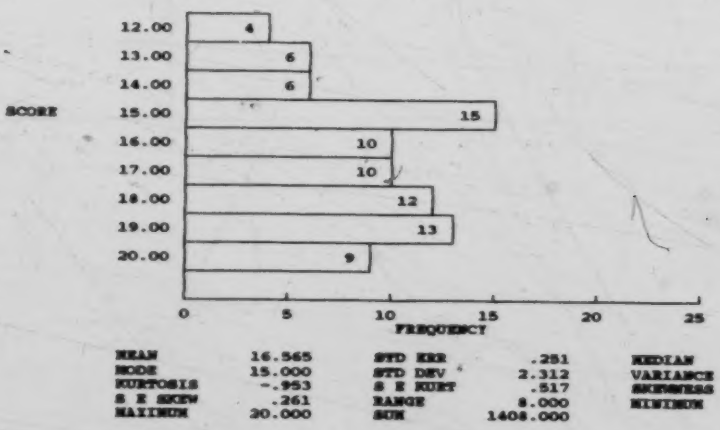
Second measurement interval



MEAN	16.482	STD ERR	.273	MEDIAN	17.000
MODE	19.000	STD DEV	2.515	VARIANCE	6.324
KURTOSIS	-.086	S E KURT	.517	SKEWNESS	-.570
S E SKEW	.261	RANGE	11.000	MINIMUM	9.000
MAXIMUM	20.000	SUM	1401.000		
VALID CASES	85	MISSING CASES	20		

Figure L-7 Social Support scale: Fathers

Third measurement interval



MEAN	16.565	STD ERR	.251	MEDIAN	17.000
MODE	15.000	STD DEV	2.312	VARIANCE	5.344
KURTOSIS	-.953	S E KURT	.517	SKEWNESS	-.221
S E SKEW	.261	RANGE	8.000	MINIMUM	12.000
MAXIMUM	20.000	SUM	1408.000		
VALID CASES	85	MISSING CASES	20		

Figure L-8 Social Support scale: Fathers

Fourth measurement interval

APPENDIX M:

Regression Correlation/Covariance matrices

Table M-1

T, Mothers correlation/covariance matrix

	PSOCM1	BABYM1	SupportM1	Expected min. crying	Pregnancy health prob.	L & D anxiety	Parenting anxiety	Previous baby exp.	Usual # hrs. sleep
PSOCM1	78.482	-.419	.226	-.213	.070	.232	.542	.096	.045
BABYM1	-15.761	18.019	-.159	.626	-.166	-.005	-.242	-.037	.149
SupportM1	5.726	-1.932	8.203	-.060	.328	.199	.247	.028	-.123
Expected min. cry	-94.129	132.231	-8.605	2477.673	-.131	.213	.005	.044	.028
Preg. health prob.	.594	-.680	.905	-6.263	.928	.132	.192	-.173	-.049
L & D anxiety	2.410	-.026	.668	12.427	.149	1.373	.413	-.067	-.188
Parenting anxiety	4.308	-.922	.635	.213	.166	.434	.805	.068	-.071
Previous baby exp.	1.219	-.228	.116	3.150	-.240	-.112	.087	2.062	-.112
Usual # hrs. sleep	.466	.746	-.416	1.636	-.055	-.260	-.075	-.190	1.393
	COVARIANCE								

CORRELATION

Note. Variances are shown on the diagonal.

Table M-2

T, Mothers correlation/covariance matrix

	PSOCM2	PSOCM1	BABYM2	SupportM2	Pregnancy health prob.	Previous baby exp.	Mins. cry spells	Difficulty L & D	L & D satisf.	L & D concerns	Gen. baby concerns	Satisf. feeding	Parent. anxiety
PSOCM2	94.306	.568	-.467	.139	.085	.224	-.268	.187	.162	.162	.274	.382	.630
PSOCM1	47.639	74.534	-.086	.086	.116	.097	-.119	.029	.033	.049	.038	.103	.385
BABYM2	-20.213	-3.313	19.891	.023	-.264	-.123	.465	-.305	-.191	-.259	-.118	-.066	-.274
SupportM2	3.555	1.941	.264	6.891	.139	-.037	-.010	.038	.118	-.132	.126	.129	.053
Preg. health problems	.771	.930	-1.096	.340	.867	-.119	-.181	.020	.015	.310	.124	.130	.094
Prev. baby experience	3.077	1.188	-.775	-.136	-.157	1.999	.148	.142	.106	-.158	.135	.085	.205
Mins. crying spells	118.957	-47.183	94.878	-1.190	-7.689	9.592	2092.057	-.077	.107	.062	-.166	-.030	-.075
Difficulty L & D	2.404	.332	-1.805	.133	.024	.266	-4.704	1.762	.499	.276	.074	.066	.221
L & D satis.	2.212	.403	-1.193	.434	.020	.211	6.875	.930	1.970	.261	.132	.079	.317
L & D concerns	2.561	.682	-1.881	-.562	.470	-.363	4.588	.597	.596	2.648	.125	.047	.198
Gen. baby concerns	3.582	.445	-.710	.445	.155	.256	-10.207	.132	.250	.274	1.807	.391	.424
Satis. feeding	5.107	1.229	-.407	.468	.167	.165	-1.879	.120	.153	.105	.725	1.900	.432
Parenting anxiety	6.514	3.542	-1.302	.147	.094	.309	-3.636	.312	.474	.343	.606	.634	1.133

COVARIANCE

CORRELATION

Note. Variances are shown on the diagonal.

Table M-3

T, Mothers correlation/covariance matrix

	PSOCM3	PSOCM2	BABYM3	SupportM3	Pregnancy health prob.	Previous baby exp.	Mins. cry spells	Satis. feeding	Gen. baby concerns	Hrs. sleep per night	Energy level	Parenting anxiety	
PSOCM3	95.251	.636	-.418	.254	.034	.027	-.286	.425	.410	.157	.241	.534	
PSOCM2	56.049	81.524	-.229	.205	-.019	.171	-.158	.268	.328	.005	.089	.378	
BABYM3	-20.868	-10.595	26.148	.049	-.092	-.056	.747	-.343	-.201	-.057	-.047	-.335	
SupportM3	7.657	5.723	.777	9.569	.225	-.010	.146	.020	.245	.155	.171	.107	CORRELATION
Preg. health problems	.314	-.163	-.446	.656	.890	-.207	-.074	-.063	.018	-.047	.140	-.015	
Previous baby experience	.363	2.096	-.392	-.042	-.265	1.844	.063	.045	.091	-.166	-.126	.027	
Mins. crying spells	-149.307	-76.441	204.121	24.107	-3.716	4.608	2858.404	-.105	-.086	.033	-.0443	-.269	
Satis. feeding	4.807	2.806	-2.031	.072	-.069	.071	-6.516	1.341	.560	.304	.076	.327	
Gen. baby concerns	3.852	2.852	-.988	.731	.016	.119	-4.423	.624	.928	.113	.175	.451	
Hrs. sleep per night	2.135	.069	-.403	.667	-.062	-.313	2.424	.489	.152	1.934	.247	.071	
Energy level	1.761	.604	-.182	.396	.098	-.128	-1.776	.066	.126	.257	.559	.264	
Parenting anxiety	4.127	2.702	-1.358	.262	-.011	.029	-11.391	.300	.344	.079	.156	.628	
							COVARIANCE						

Note. Variances are shown on the diagonal.

Table M-4

T. Mothers correlation/covariance matrix

	PSOCM4	PSOCM3	BABYM4	SupportM4	Pregnancy health prob.	Previous baby exp.	Mins. cry spells	Gen. baby concerns	Satis. feeding	Hrs. sleep per night	Energy level	Parenting anxiety
PSOCM4	96.889	.832	-.329	.297	.096	.080	-.249	.387	.523	.091	.302	.637
PSOCM3	84.345	106.017	-.325	.259	.036	.096	-.222	.270	.477	.080	.151	.518
BABYM4	-11.891	-12.266	13.477	-.041	-.206	.052	.535	-.244	-.255	-.182	-.080	-.379
SupportM4	9.229	8.431	-.476	9.974	.191	.052	.027	.200	.105	.065	.118	.229
Preg. health problems	.859	.334	-.685	.547	.819	-.069	-.287	.168	.156	.050	.184	.043
Previous baby experience	1.070	1.337	.260	.223	-.085	1.844	.167	.075	.096	-.289	-.058	.155
Mins. crying spells	-75.991	-70.784	60.855	2.596	-8.063	7.039	960.633	-.162	-.191	-.118	-.094	-.111
Gen. baby concerns	4.128	3.012	-.973	.687	.165	.110	-5.458	1.177	.324	.017	.241	.405
Satis. feeding	4.003	3.818	-.727	.259	.110	.101	-4.600	.273	.604	.067	.236	.342
Hrs. sleep per night	1.643	1.518	-1.228	.380	.083	-.723	-6.763	.034	.096	3.391	.176	.273
Energy level	2.545	1.327	-.251	.319	.143	-.068	-2.490	.224	.157	.277	.732	.225
Parenting anxiety	5.515	4.696	-1.226	.637	.034	.186	-3.029	.387	.234	.442	.169	.774

COVARIANCE

CORRELATION

Note. Variances are shown on the diagonal.

Table M-5

T, Fathers correlation/covariance matrix

	PSOCF1	BABYF1	SupportF1	Expected min. crying	Pregnancy health prob.	L & D anxiety	Parenting anxiety	Previous baby exp.	Usual # hrs. sleep	
PSOCF1	77.878	-.190	.353	-.121	.046	.330	.526	.245	-.005	C
BABYF1	-6.381	14.460	.097	.511	-.220	-.134	-.341	-.154	-.062	O
SupportF1	7.778	.920	6.229	.066	-.003	.175	.215	.171	-.082	R
Expected min. cry	70.510	128.506	10.859	4380.770	-.241	-.071	-.201	-.138	-.008	R
Preg. health prob.	.397	-.816	-.007	-15.524	.950	-.035	.136	.006	-.077	E
L & D anxiety	3.226	-.563	.485	-5.174	-.037	1.228	.614	.214	-.141	L
Parenting anxiety	4.036	-1.126	.467	-11.557	.115	.591	.757	.298	-.018	A
Previous baby exp.	2.635	-.713	.521	-11.115	.007	.289	.316	1.483	-.100	T
Usual # hrs. sleep	-.043	-.241	-.208	-.521	-.076	-.159	-.016	-.123	1.033	I
	COVARIANCE									O
										N

Note. Variances are shown on the diagonal.

Table M-6

T, Fathers correlation/covariance matrix

	PSOCF2	PSOCF1	BABYF2	SupportF2	Pregnancy health prob.	Previous baby exp.	Mins. cry spells	Difficulty L & D	L & D satisf.	L & D concerns	Gen. baby concerns	Satisf. feeding	Parent. anxiety
PSOCF2	90.377	.680	-.447	.111	.009	.160	-.383	-.040	.091	.149	.373	.076	.629
PSOCF1	61.215	89.711	-.372	.081	.012	.191	-.328	.095	.070	.222	.301	-.106	.538
BABYF2	-15.488	-12.840	13.291	-.177	.107	-.110	.490	-.039	-.184	-.110	-.182	.086	-.402
SupportF2	2.587	1.887	-1.589	6.030	.066	.086	.014	-.056	.103	.016	.091	.052	.154
Preg. health problems	.080	.105	.372	.154	.913	.040	-.008	-.191	.021	-.013	.035	.234	.171
Prev. baby experience	1.773	2.115	-.469	.247	.045	1.365	-.208	.094	.001	-.016	-.108	.080	.195
Mins. crying spells	-103.735	-88.515	50.966	.954	-.224	-6.923	813.129	.121	-.239	-.132	-.234	-.070	-.387
Difficulty L & D	-.486	1.162	-.181	-.177	-.235	.141	4.438	1.653	.456	.259	.131	.014	-.056
L & D satis.	1.057	.820	-.827	.311	.025	.001	-8.376	.720	1.511	.216	.084	.150	.157
L & D concerns	2.124	3.143	-.599	.058	-.018	-.029	-5.657	.498	.398	2.242	.289	.044	.181
Gen. baby concerns	4.876	3.926	-.914	.307	.045	-.174	-9.194	.232	.142	.596	1.891	.126	.447
Satis. feeding	.861	-1.186	.373	.151	.265	.111	-2.373	.022	.219	.078	.205	1.405	.226
Parenting anxiety	5.850	4.980	-1.434	.370	.160	.223	-10.795	-.070	.189	.264	.601	.262	.956

COVARIANCE

CORRELATION

Note. Variances are shown on the diagonal.

Table M-7

T, Fathers correlation/covariance matrix

	PSOCF3	PSOCF2	BABYF3	SupportF3	Pregnancy health prob.	Previous baby exp.	Mins. cry spells	Satis. feeding	Gen. baby concerns	Hrs. sleep per night	Energy level	Parenting anxiety	
PSOCF3	90.013	.727	-.389	.343	.226	.229	-.314	.281	.303	.050	.090	.683	
PSOCF2	62.308	81.714	-.276	.080	.100	.190	-.297	.254	.295	.068	.122	.579	
BABYF3	-16.142	-10.936	19.170	-.055	-.075	.119	.597	-.296	-.377	-.115	-.011	-.434	
SupportF3	8.297	1.830	-.614	6.484	.129	-.020	-.045	.159	.054	-.023	.103	.257	C
Preg. health problems	2.140	.899	-.330	.328	.995	.068	.018	.058	.173	.160	.014	.057	O
Previous baby experience	2.545	2.016	.612	-.061	.080	1.371	.221	-.052	-.175	.169	.088	.200	R
Mins. crying spells	-155.625	-140.469	136.768	-6.052	.924	13.526	2734.998	-.142	-.155	.146	-.059	-.328	R
Satis. feeding	1.829	1.573	-.889	.277	.040	-.042	-5.077	.470	.288	.203	.106	.270	E
Gen. baby concerns	2.869	2.654	-1.646	.136	.172	-.204	-8.087	.197	.993	.139	-.063	.309	L
Hrs. sleep per night	.724	.930	-.765	-.090	.242	.301	11.595	.211	.211	2.305	.115	.034	A
Energy level	.611	.788	-.035	.187	.010	.074	-2.216	.052	-.045	.125	.510	.030	T
Parenting anxiety	4.772	3.855	-1.400	.482	.042	.173	-12.654	.136	.227	.038	.016	.543	I
						COVARIANCE							O
													N

Note. Variances are shown on the diagonal.

Table M-8

T. Fathers correlation/covariance matrix

	PSOCF4	PSOCF3	BABYF4	SupportF4	Pregnancy health prob.	Previous baby exp.	Mins. cry spells	Gen. baby concerns	Satis. feeding	Hrs. sleep per night	Energy level	Parenting anxiety
PSOCF4	95.772	.823	-.344	.288	.095	.265	-.254	.266	.192	.112	.223	.613
PSOCF3	78.160	94.258	-.327	.273	.165	.267	-.291	.303	.198	.069	.240	.511
BABYF4	-11.944	-11.236	12.559	.044	-.056	-.006	.677	-.142	-.185	-.161	.056	-.377
SupportF4	6.649	6.249	.366	5.561	-.011	.056	.022	.141	.045	-.099	.269	.144
Preg. health problems	.889	1.522	-.188	-.025	.907	-.023	.090	.003	-.056	.094	.205	.120
Previous baby experience	3.189	3.184	-.027	.162	-.027	1.514	-.161	-.072	-.036	.272	.066	.179
Mins. crying spells	-61.894	-70.371	59.648	1.277	2.141	-4.932	618.982	-.080	-.058	-.100	.101	-.099
Gen. baby concerns	2.777	3.139	-.538	.356	.003	-.095	-2.138	1.142	-.030	-.014	-.091	.325
Satis. feeding	1.719	1.760	-.600	.097	-.049	-.041	-1.311	-.030	.838	.287	-.133	.207
Hrs. sleep per night	1.146	.698	-.600	-.245	.094	.351	-2.621	-.016	.276	1.100	.277	.159
Energy level	1.452	1.550	.132	.421	.130	.054	1.671	-.065	-.081	.193	.441	.063
Parenting anxiety	4.786	3.963	-1.065	.270	.091	.176	-1.961	.277	.151	.133	.033	.637

COVARIANCE

CORRELATION

Note. Variances are shown on the diagonal.